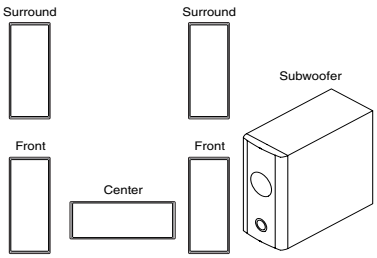
Pioneer sound.vision.soul

Service Manual



S-DV830

ORDER NO.
RRV2807

SPEAKER SYSTEM

S-DV830

S-DV830SW S-DV830ST

S-DV99

S-DV99SW S-DV99ST

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Model	Type	Power Requirement
S-DV830, S-DV830SW	KUCXJI	AC120V	S-DV830ST	XJI/UC	————
S-DV99, S-DV99SW	MYXJI	AC220-230V	S-DV99ST	XJI/EW	————
S-DV99, S-DV99SW	NVXJI	AC230V			

This product does not finction properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result

Component	System	Service Manual	Remarks
DVD/CD TUNER	XV-DV830	RRV2817	
SPEAKER SYSTEM	S-DV830	RRV2807	This manual
POWERED SUBWOOFER	S-DV830SW		
SPEAKER SYSTEM	S-DV830ST		

Component	System	Service Manual	Remarks
DVD/CD TUNER	XV-DV99	RRV2792	
SPEAKER SYSTEM	S-DV99	RRV2807	This manual
POWERED SUBWOOFER	S-DV99SW		
SPEAKER SYSTEM	S-DV99ST		

For details, refer to "Important symbols for good services".

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ⓒ**PIONEER CORPORATION 2003**

T-ZZE JULY 2003 printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

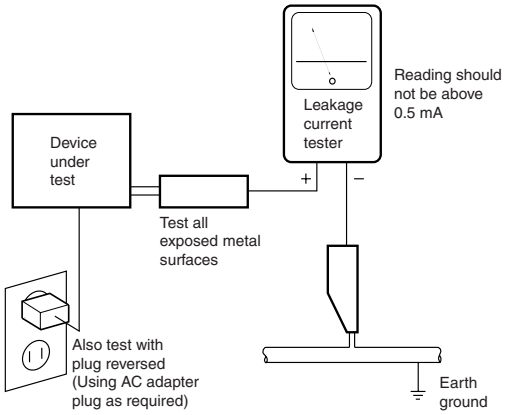
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Amplifier Section

Continuous Power (RMS) . . . . . 75 W / channel
. . . . . (1 kHz, THD 10%, 6 Ω)

Miscellaneous (MY and NV types)

Power Requirements
MY type . . . . . AC 220–230 V, 50/60 Hz
NV type . . . . . AC 230V, 50/60 Hz
Power Consumption . . . . . 163 W
Power Consumption
in standby mode . . . . . 0.48 W

Miscellaneous (KU type)

Power Requirements . . . . . AC 120 V, 60 Hz
Power Consumption. . . . . 178 W
Power Consumption
in standby mode . . . . . 0.46 W

Powered subwoofer (S-DV99SW)

Type . . . . . Bass reflex floor type, antimagnetic
Speaker . . . . . 18 cm (cone type)
Nominal impedence. . . . . 6 Ω
Frequency range. . . . . 25 – 2300 Hz
Max. input . . . . . 75 W (JEITA)
Dimensions . . . . 192 (W) x 436 (D) x 395 (H) cm
Weight . . . . . 12.5 kg

Powered subwoofer (S-DV830SW)

Type. . . . . Bass reflex floor type, antimagnetic
Speaker. . . . . 18 cm (cone type)
Nominal impedence . . . . . 6 Ω
Frequency range . . . . . 25 – 2300 Hz
Max. input. . . . . 75 W (JEITA)
Dimensions . . . . 192 (W) x 436 (D) x 395 (H) cm
$7\ ^{9}/_{16}$ (W) x $17\ ^{5}/_{32}$ (D) x $15\ ^{9}/_{16}$ (H) in.
Weight . . . . . 12.5 kg / 27 lb. 9 oz

Satellite Speaker System (S-DV99ST)

Type Sealed, antimagnetic
Speaker . . . . . 8.7 cm (cone type)
. . . . . 5.2 cm (cone type)
Nominal impedence. . . . . 6 Ω
Frequency range. . . . . 80 – 20,000 Hz
Max. input . . . . . 75 W (JEITA)
Front / Surround speakers
Dimensions . . . . . 110 (W) x 59 (D) x 284 (H) cm
Weight . . . . . 0.7 kg
Center speaker
Dimensions . . . . . 284 (W) x 59 (D) x 110 (H) cm
Weight . . . . . 0.7 kg

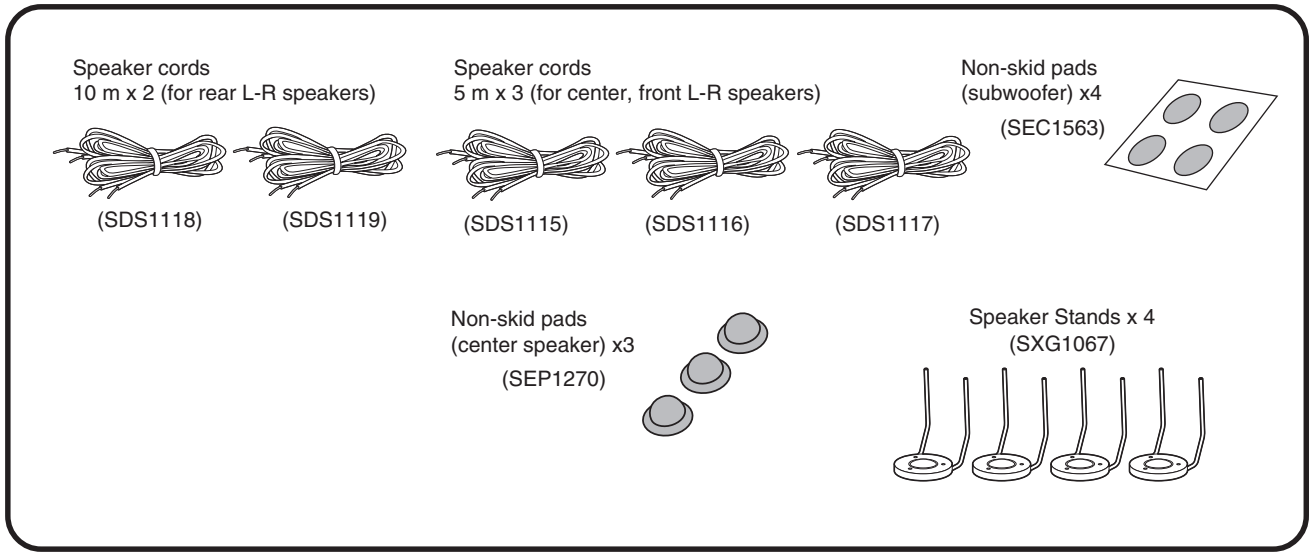
Satellite Speaker System (S-DV830ST)

Type Sealed, antimagnetic
Speaker. . . . . 8.7 cm (cone type)
. . . . . 5.2 cm (cone type)
Nominal impedence . . . . . 6 Ω
Frequency range . . . . . 80 – 20,000 Hz
Max. input. . . . . 75 W (JEITA)
Front / Surround speakers
Dimensions . . . . . 110 (W) x 59 (D) x 284 (H) cm
$4\ ^{11}/_{32}$ (W) x $2\ ^{5}/_{16}$ (D) x $11\ ^{3}/_{16}$ (H) in.
Weight . . . . . 0.7 kg / 1 lb. 9 oz
Center speaker
Dimensions . . . . . 284 (W) x 59 (D) x 110 (H) cm
$11\ ^{3}/_{16}$ (W) x $2\ ^{9}/_{32}$ (D) x $4\ ^{11}/_{32}$ (H) in.
Weight . . . . . 0.7 kg / 1 lb. 9 oz

Note

- Specifications and design subject to possible modification without notice, due to improvements.

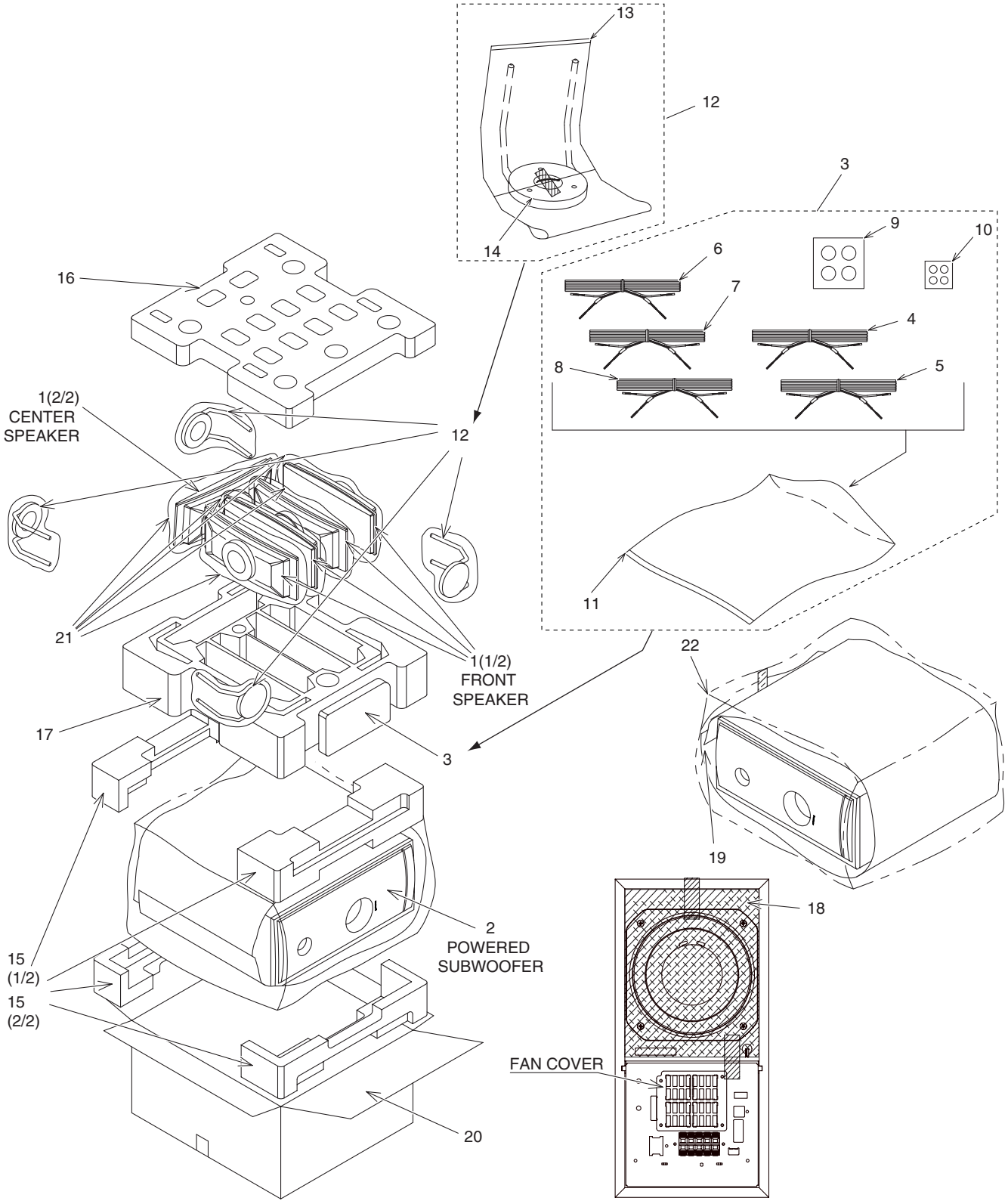
accessories



2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING parts List

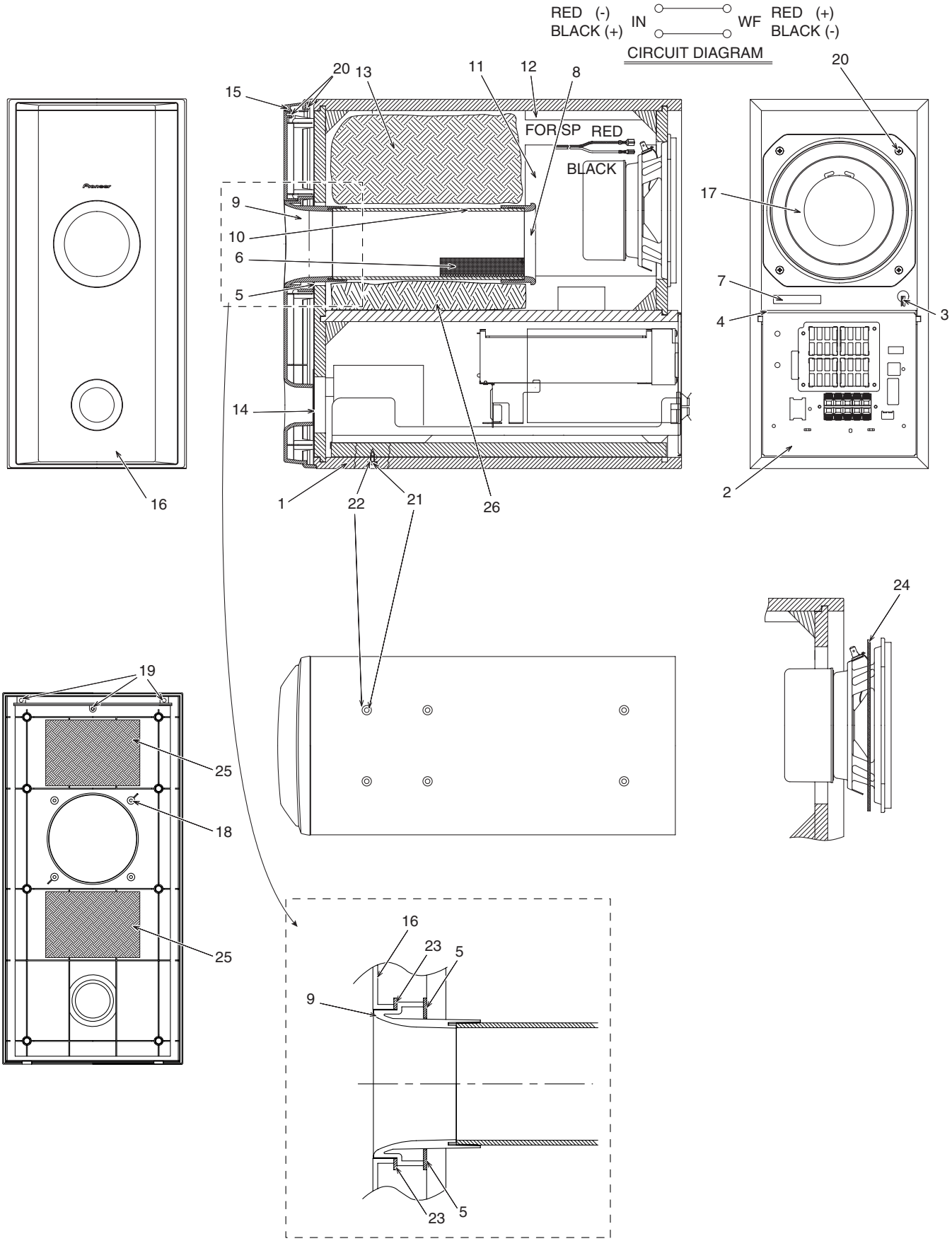
Mark	No.	Description	Part No.
NSP	1	Speaker System	See Contrast table(2)
NSP	2	POWERED SUBWOOFER	See Contrast table(2)
NSP	3	Accessories Set	SME3373
	4	Speaker cord (FRONT R/5m : Red)	SDS1115
	5	Speaker cord (FRONT L/5m : White)	SDS1116
	6	Speaker cord (CENTER/5m : Green)	SDS1117
	7	Speaker cord (SURROUND L/10m : Blue)	SDS1118
	8	Speaker cord (SUROUND R/10m : Gray)	SDS1119
	9	Non-skid pads (subwoofer)	SEC1563
	10	Non-skid pads (center speaker)	SEP1270
	11	Poly Bag S3	SHL1293
NSP	12	Accessories Set	SME3374
	13	Poly Bag S1	SHL1359
	14	Speaker Stand	SXG1067
	15	Protector	SHA2379
	16	Top Protector	SHA2380
	17	Bottom Protector	SHA2381
	18	Protector	SHB1097
	19	Protection Sheet	SHC1790
	20	Packing Case	See Contrast table(2)
NSP	21	Poly Bag	SHL1223
	22	Poly Bag S6	SHL1292

(2) CONTRAST TABLE

S-DV830/KUCXJI, S-DV99/MYXJI and S-DV99/NVXJI are constructed the same except for the following:

Mark	No.	Symbol and Description	S-DV830/KUCXJI	S-DV99/MYXJI	S-DV99/NVXJI
NSP	1	Speaker System	S-DV830ST/XJI/UC	S-DV99ST/XJI/EW	S-DV99ST/XJI/EW
NSP	2	POWERED SUBWOOFER	S-DV830SW/KUCXJI	S-DV99SW/MYXJI	S-DV99SW/NVXJI
	20	Packing Case	SHG2487	SHG2485	SHG2502

2.2 PRODUCT APPEARANCE SECTION [POWERD SUBWOOFER]



PRODUCT APPEARANCE SECTION parts List

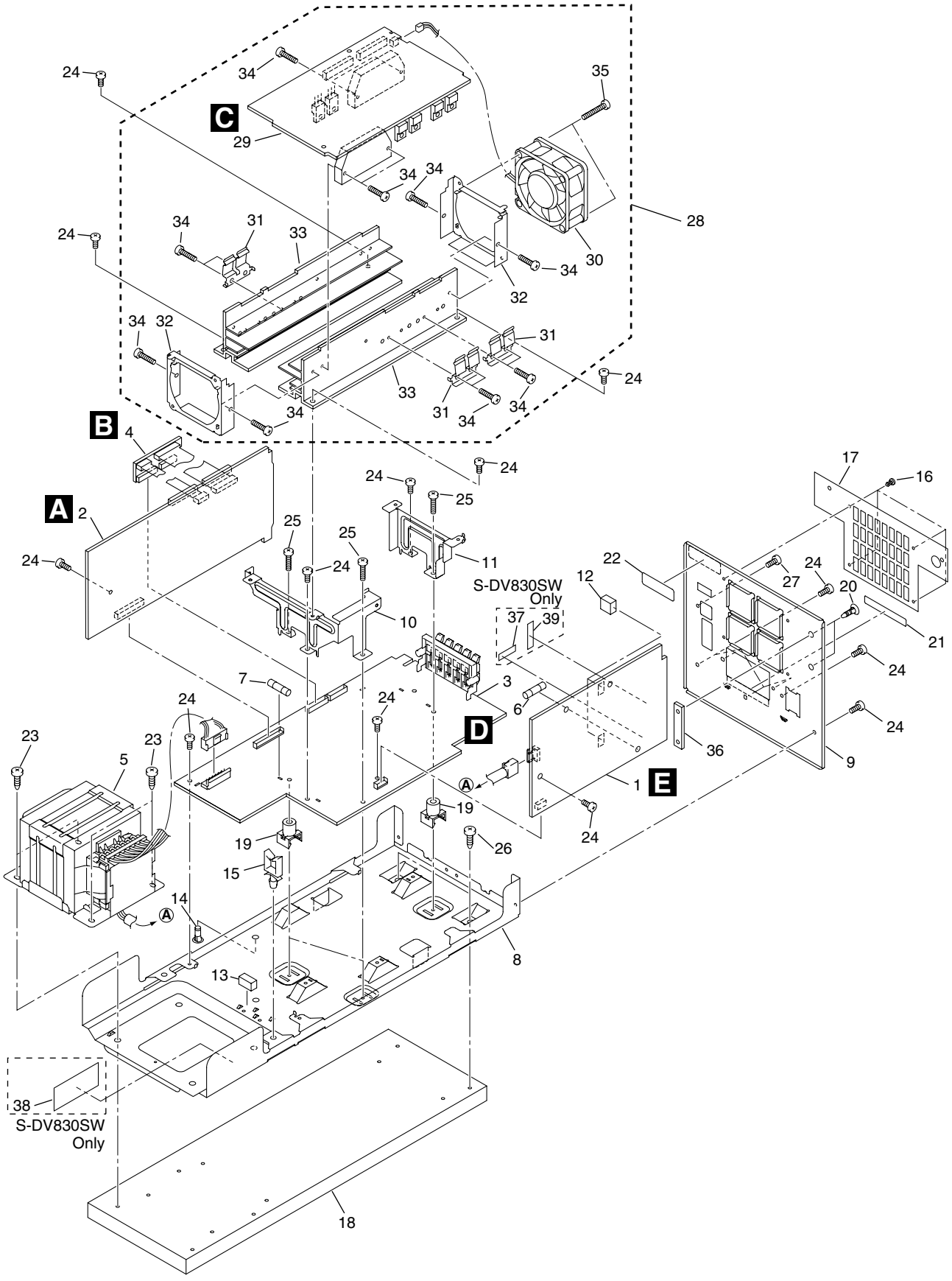
Mark	No.	Description	Part No.
NSP	1	Cabinet	SMM1994
NSP	2	Amp Ass'y	See Contrast table(2)
	3	Connecting Cord	SDF1095
	4	Packing	SEC1540
	5	Packing	SEC1634
	6	Damper	SER1300
NSP	7	Stamped Serial Label	See Contrast table(2)
NSP	8	Duct Ring	SMR1339
NSP	9	Cosmetic Duct	SMR1356
NSP	10	Paper Tube 70	SMR1362
NSP	11	Acoustic Absorbent	SMV2077
NSP	12	Acoustic Absorbent	SMV2078
NSP	13	Acoustic Absorbent	SMV2079
NSP	14	Mesh	SNC1188
NSP	15	Cosmetic Board	SNK2673
NSP	16	Cosmetic Baffle	SNK2672
	17	Speaker	T16EU92
	18	Screw	BPZ40P120FZB
	19	Screw	BPZ35P080FZB
	20	Screw	BYC40P160FZB
	21	Screw	BYC40P200FZB
	22	Washer	WA43F090M080
NSP	23	Gasket	SEC1735
NSP	24	Gasket	SEC1736
	25	Acoustic Absorbent	SMT1216
	26	Acoustic Absorbent	SMT1217

(2) CONTRAST TABLE

S-DV830SW/KUCXJI, S-DV99SW/MYXJI and S-DV99SW/NVXJI are constructed the same except for the following:

Mark	No.	Symbol and Description	S-DV830SW/ KUCXJI	S-DV99SW/ MYXJI	S-DV99SW/ NVXJI
NSP	2	Amp Ass'y	AXX7156	AXX7153	AXX7154
NSP	7	Stamped Serial Label	SME3396	SME3380	SME3380

2.3 AMPLIFIER ASSY



AMPLIFIER ASSY parts List

Mark	No.	Description	Part No.
	1	PRIMARY ASSY	See Contrast table(2)
	2	AF ASSY	AWU8096
	3	POWER ASSY	AWU8097
	4	TRADE 1 ASSY	AWU8028
⚠	5	POWER TRANSFORMER T1	See Contrast table(2)
⚠	6	Fuse (FU1)	See Contrast table(2)
⚠	7	Fuse (FU4)	See Contrast table(2)
NSP	8	Chassis	ANA7109
	9	Rear Panel	See Contrast table(2)
	10	Hs Holder F	ANG7439
	11	Hs Holder R	ANG7440
	12	Cushion B	AEB7290
	13	Cushion	AEB7319
	14	Card Spacer	AEC7133
	15	Wire Saddel	AEC7297
	16	Nylon Rivet	AEC7318
	17	Fan Cover	AEC7427
	18	Wood Base	AMM7008
NSP	19	PCB Mould	AMR1525
	20	Rocking Card Spacer	ONK1035
NSP	21	SP Label	AAX7956
NSP	22	Serial Paper	RRW-168
	23	Screw	SBA1061
	24	Screw	BBZ30P080FMC
	25	Screw	BBZ30P200FMC
	26	Screw	BYC40P140FMC
	27	Screw	PSC30P080FNI
NSP	28	AMP MODULE 6CH	AXQ7242
	29	6CH AMP ASSY	AWM7720
	30	DC Fan Motor	AXM7025
	31	FET Bracket	ANG7418
	32	Fan Plate	ANG7462
	33	Heat Sink	ANH7166
	34	Screw	BBZ30P140FMC
	35	Screw	BBZ30P300FZK
NSP	36	USE ASSY	• • • • •
NSP	37	Fuse Card	See Contrast table(2)
	38	65 Label	See Contrast table(2)
NSP	39	Fuse Caution Label	See Contrast table(2)

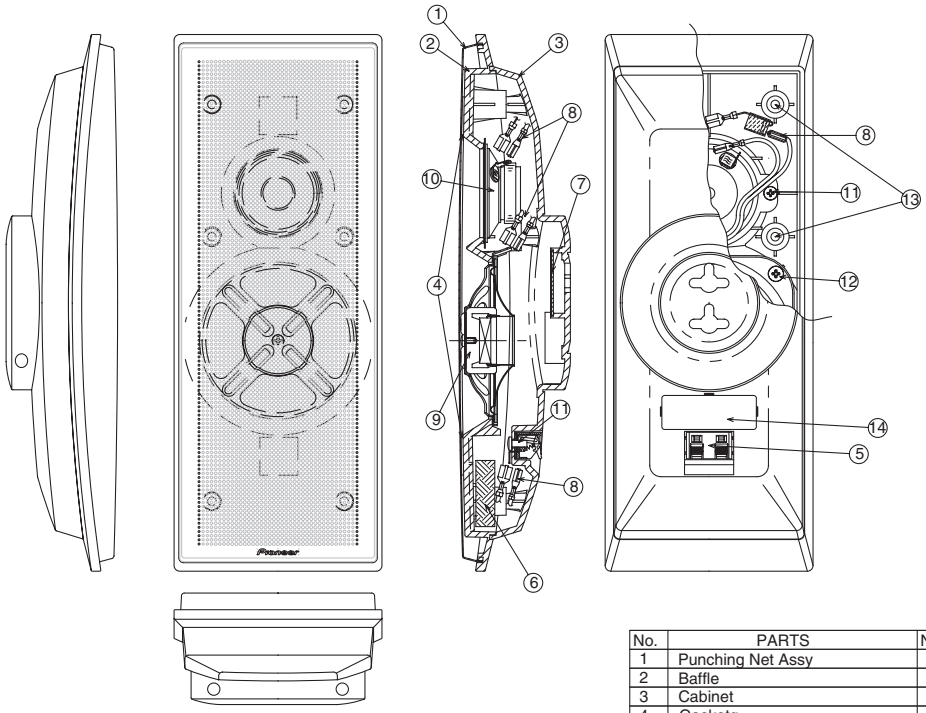
(2) CONTRAST TABLE

S-DV830SW/KUCXJI, S-DV99SW/MYXJI and S-DV99SW/NVXJI are constructed the same except for the following:

Mark	No.	Symbol and Description	S-DV830SW/ KUCXJI	S-DV99SW/ MYXJI	S-DV99SW/ NVXJI
	1	PRIMARY ASSY	AWU8003	AWU8001	AWU8001
⚠	5	Power Transformer	ATS7368	ATS7367	ATS7367
⚠	6	Fuse (FU1 : 6.3A)	REK1069	Not used	Not used
⚠	6	Fuse (FU1 : T3.15A)	Not used	REK1027	REK1027
⚠	7	Fuse (FU4 : 6.3A)	REK1069	Not used	Not used
⚠	7	Fuse (FU4 : T5A)	Not used	REK1029	REK1029
	9	Rear Panel	ANC8231	ANC8224	ANC8225
NSP	37	Fuse Card	AAX2374	Not used	Not used
	38	65 Label	ARW7050	Not used	Not used
NSP	39	Fuse Caution Label	VRW-548	Not used	Not used

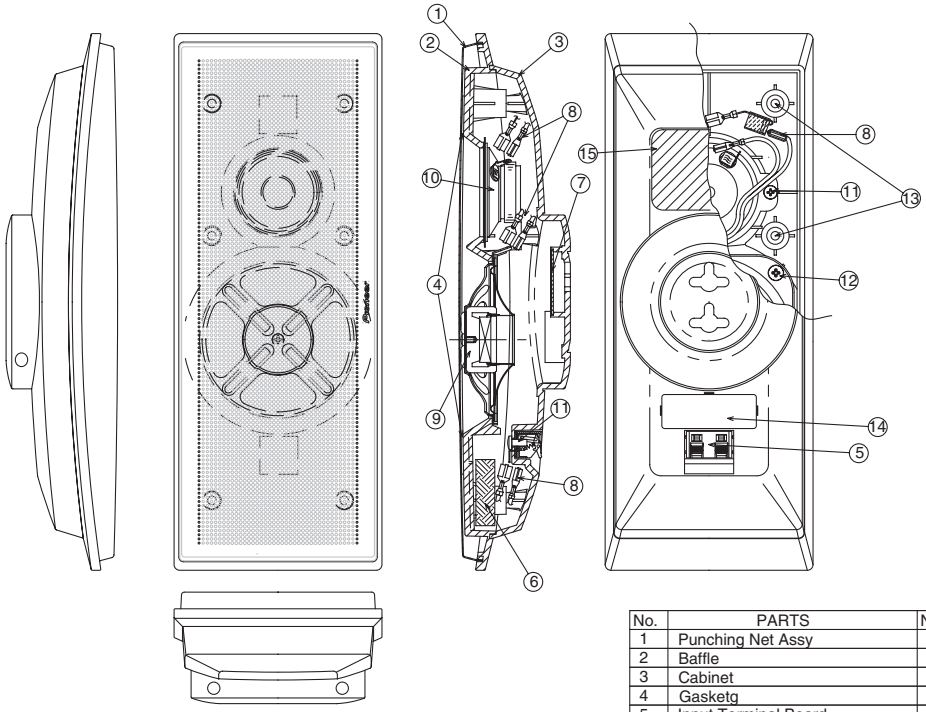
2.4 PRODUCT APPEARANCE SECTION [SPEAKER SYSTEM]

• CS ASSY (Front/Surround)



No.	PARTS	Num.	No.	PARTS	Num.
1	Punching Net Assy	1	11	Screw(M3.5 x 8)	3
2	Baffle	1	12	Screw(M4 x 8)	4
3	Cabinet	1	13	Screw(M4 x 14)	6
4	Gasketg	2	14	Label Back	1
5	Input Terminal Board	1			
6	Acoustic Absorbent	1			
7	Packing	1			
8	Network Assy	1			
9	Speaker(Mid)	1			
10	Speaker(Tw)	1			

• CS ASSY (Center)



No.	PARTS	Num.	No.	PARTS	Num.
1	Punching Net Assy	1	11	Screw(M3.5 x 8)	3
2	Baffle	1	12	Screw(M4 x 8)	4
3	Cabinet	1	13	Screw(M4 x 14)	6
4	Gasketg	2	14	Label Back	1
5	Input Terminal Board	1	15	Rubber Magnet	1
6	Acoustic Absorbent	1			
7	Packing	1			
8	Network Assy	1			
9	Speaker(Mid)	1			
10	Speaker(Tw)	1			

PRODUCT APPEARANCE SECTION parts List

Mark	No.	Description	Part No.
NSP		CS ASSY (FS)	SMW1769
NSP		CS ASSY (C)	SMW1770

For S-DV830ST

NSP		Stamped Model Label	SME3391
NSP		....Label Back	SAN3243
NSP		Stamped Model Label	SME3392
NSP		....Label Back	SAN3244
NSP		Stamped Model Label	SME3393
NSP		....Label Back	SAN3245
NSP		Stamped Model Label	SME3394
NSP		....Label Back	SAN3246
NSP		Stamped Model Label	SME3395
NSP		....Label Back	SAN3247

For S-DV99ST

NSP		Stamped Model Label	SME3375
NSP		....Label Back	SAN3232
NSP		Stamped Model Label	SME3376
NSP		....Label Back	SAN3233
NSP		Stamped Model Label	SME3376
NSP		....Label Back	SAN3234
NSP		Stamped Model Label	SME3377
NSP		....Label Back	SAN3235
NSP		Stamped Model Label	SME3379
NSP		....Label Back	SAN3236

Mark	No.	Description	Part No.

CS ASSY (FS)

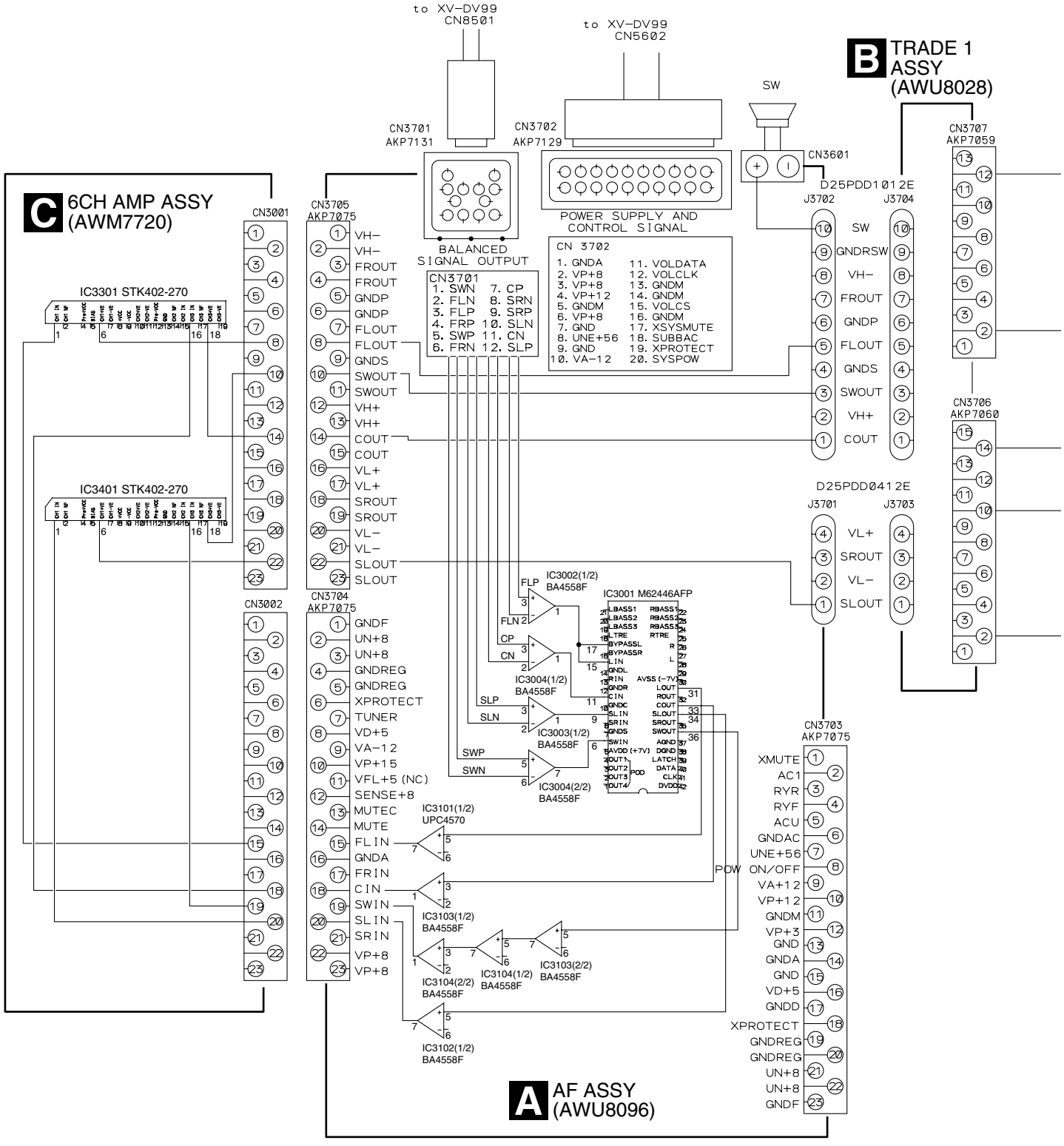
		Punching Net Assy	SET1046
NSP		....Gasket (268 x 18.5 ,t=1)	SEC1705
NSP		....Gasket (100 x 10 ,t=1)	SEC1706
NSP		....Punching Net	SNC1196
NSP		Baffle	SNK2674
NSP		Cabinet	SNK2676
NSP		Gasket (20 x 20 ,t=1)	SEC1711
		Gasket (110 x 7 ,t=1)	SEC1732
		Gasket (80 x 7 ,t=1)	SEC1733
NSP		Gasket (10 x 10 ,t=1)	SEC1734
		Packing (34.5 x 48.5 ,t=1)	SEE1084
NSP		Felt	SER1331
		Input Terminal Board	SKX1086
		Acoustic Absorbent (50 x 30 ,t=15)	SMT1215
NSP		Acoustic Absorbent (90 x 10 ,t=10)	SMV2171
		Network Assy	SWN1712
		Speaker (MID)	D87ER25-51D
		Speaker (TW)	FA52AP39-52D
		Screw (for Input Terminal,TW)	BPZ35P080FZB
		Screw (for MID)	BPZ40P080FZB
		Screw (for BF-CB)	BPZ40P140FZB

CS ASSY (C)

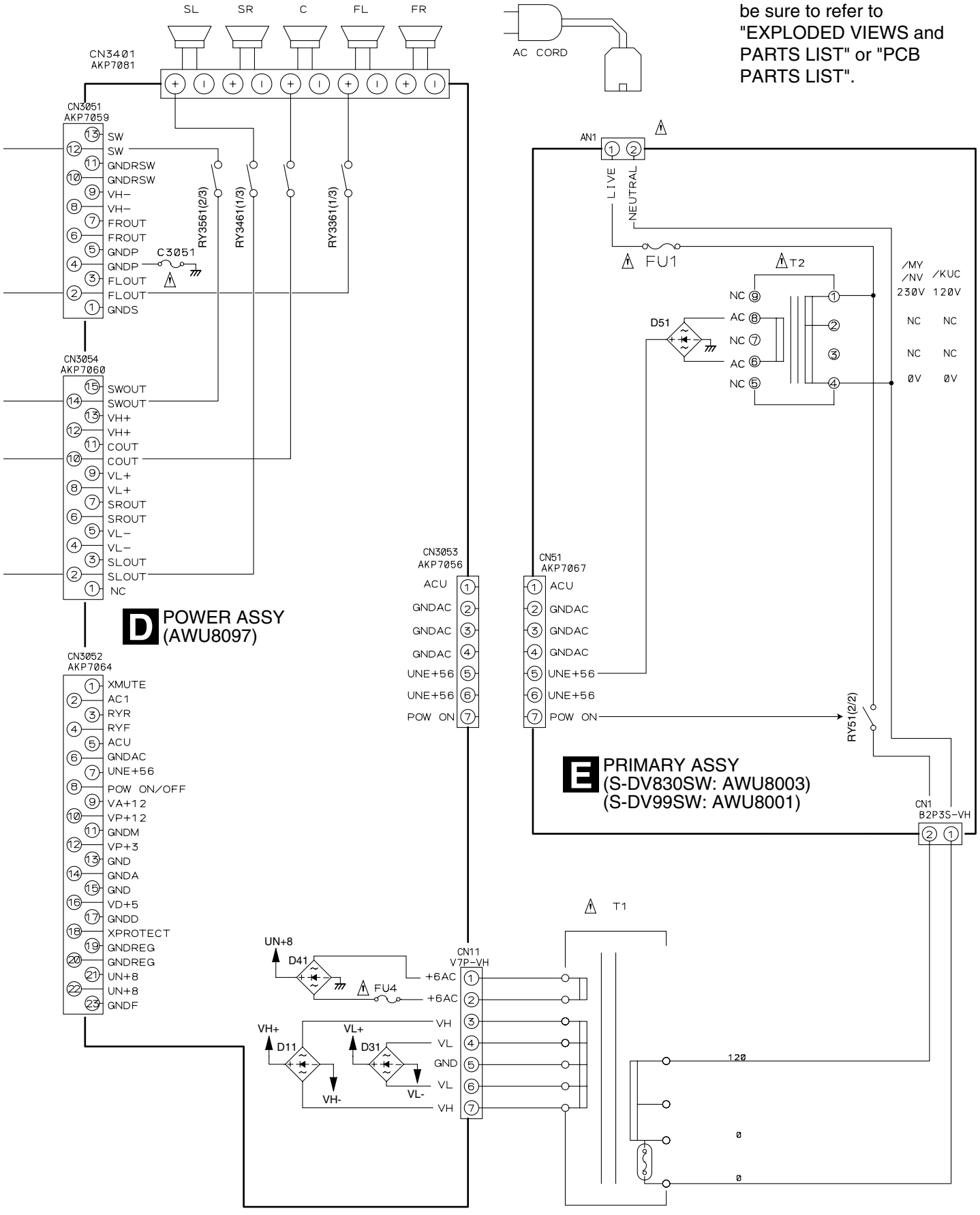
		Punching Net Assy	SET1047
NSP		....Gasket (268 x 18.5 ,t=1)	SEC1705
NSP		....Gasket (100 x 10 ,t=1)	SEC1706
NSP		....Punching Net	SNC1199
NSP		Baffle	SNK2674
NSP		Cabinet	SNK2676
NSP		Gasket (20 x 20 ,t=1)	SEC1711
		Gasket (110 x 7 ,t=1)	SEC1732
		Gasket (80 x 7 ,t=1)	SEC1733
NSP		Gasket (10 x 10 ,t=1)	SEC1734
		Packing (34.5 x 48.5 ,t=1)	SEE1084
NSP		Felt	SER1331
		Input Terminal Board	SKX1086
		Acoustic Absorbent (50 x 30 ,t=15)	SMT1215
NSP		Acoustic Absorbent (90 x 10 ,t=10)	SMV2171
NSP		Rubber Magnet	SYM1083
		Network Assy	SWN1712
		Speaker (MID)	D87ER25-51D
		Speaker (TW)	FA52AP39-52D
		Screw (for Input Terminal,TW)	BPZ35P080FZB
		Screw (for MID)	BPZ40P080FZB
		Screw (for BF-CB)	BPZ40P140FZB

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

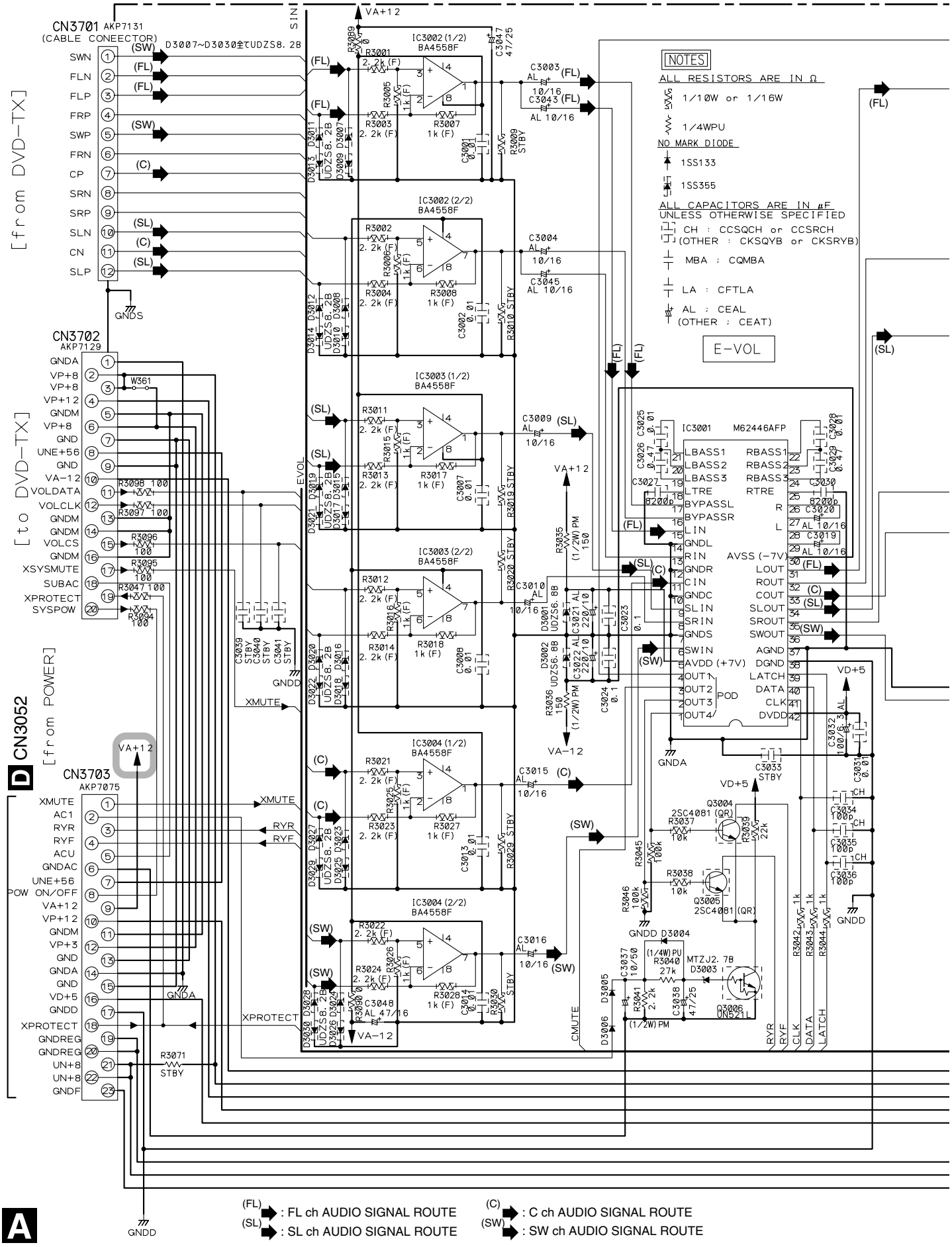
3.1 BLOCK DIAGRAM AND OVERALL CONNECTION DIAGRAM

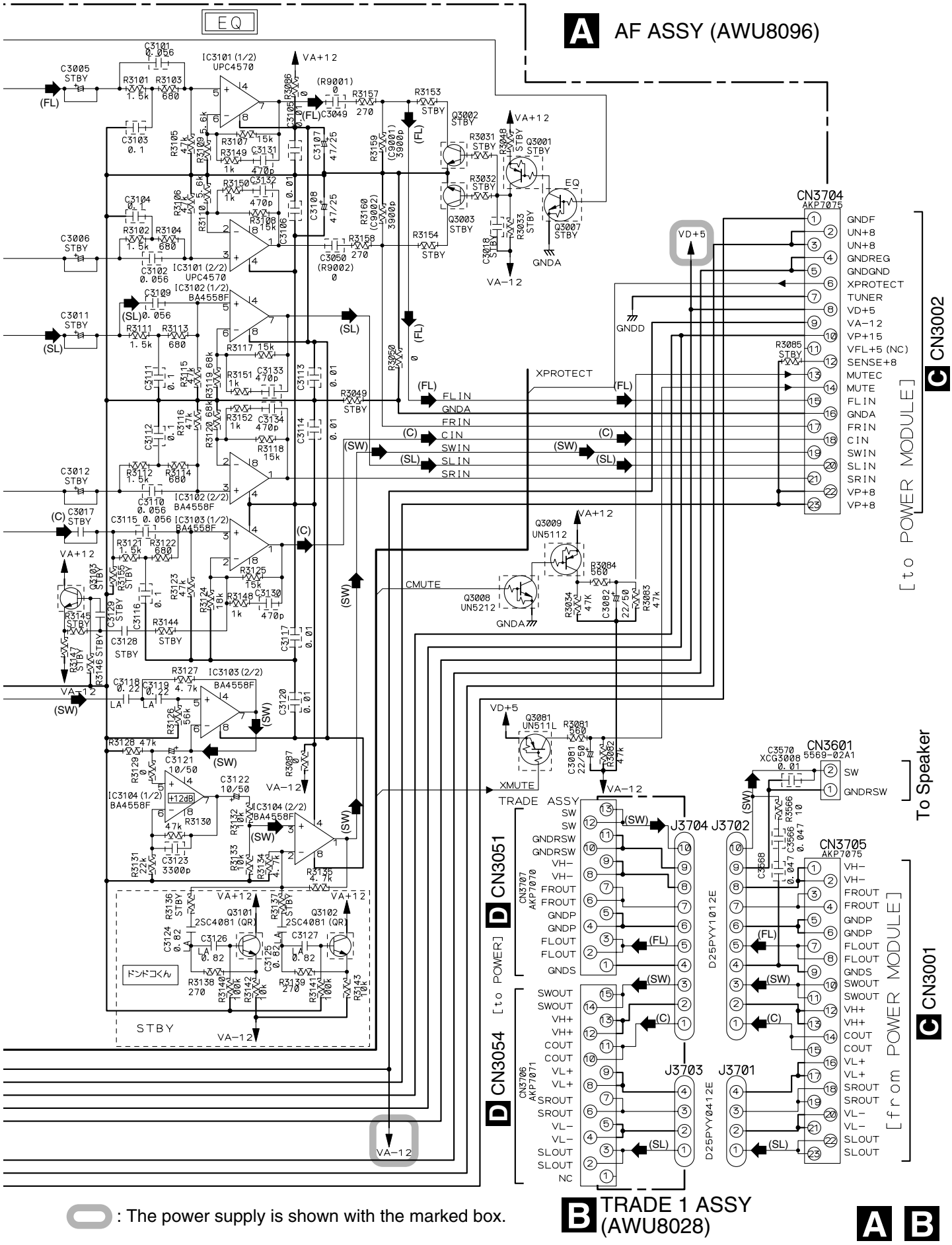


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

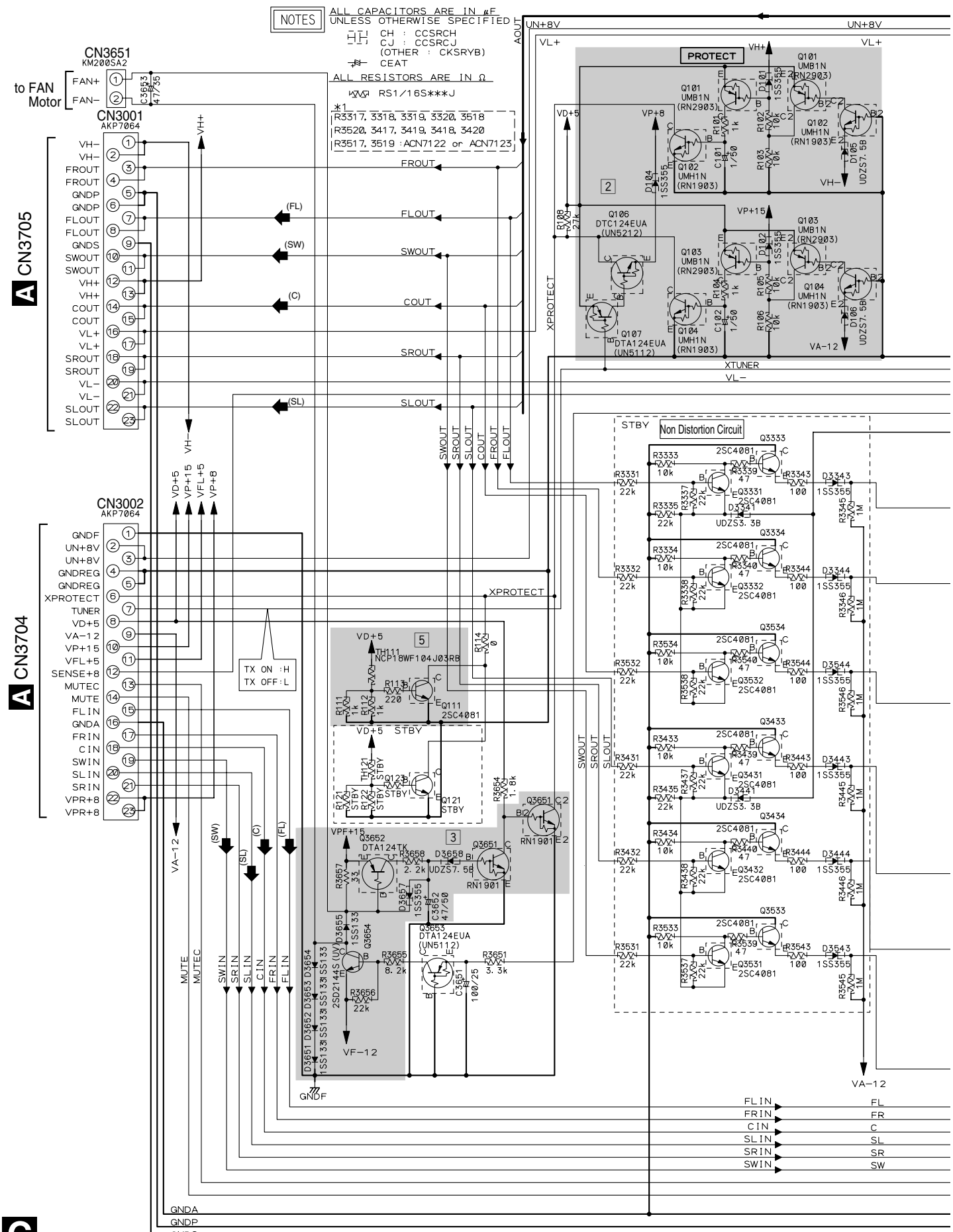


3.2 AF and TRADE 1 ASSY

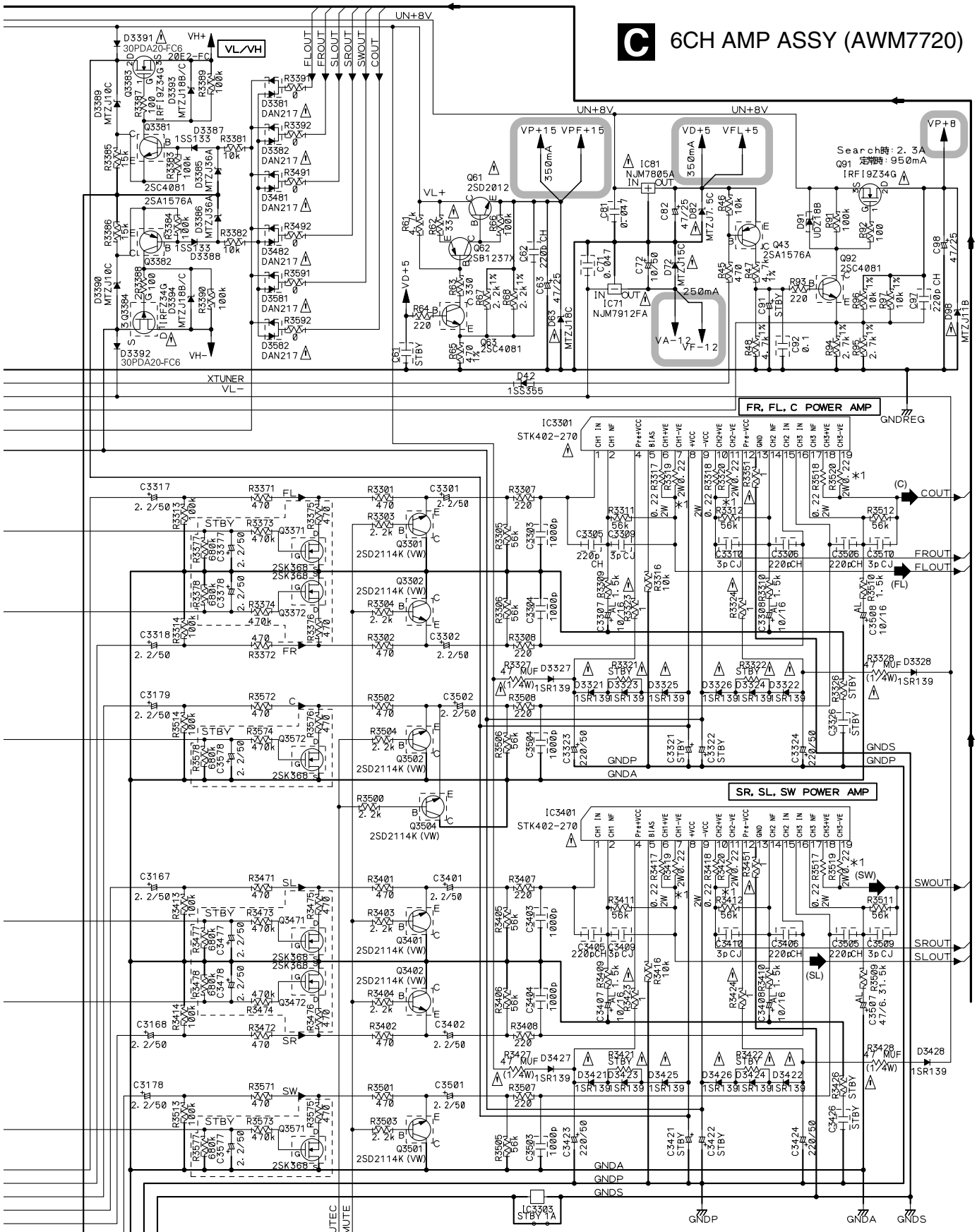



A AF ASSY (AWU8096)
EQ
IC3101 (1/2) UPC4570
IC3101 (2/2) UPC4570
IC3102 (1/2) BA4558F
IC3102 (2/2) BA4558F
IC3103 (1/2) BA4558F
IC3103 (2/2) BA4558F
IC3104 (1/2) BA4558F
IC3104 (2/2) BA4558F
+12dB
VA+12
VA-12
VD+5
GNDA
GNDD
STBY
CN3704 AKP7075
GNDF
UN+8
UN+8
GNDREG
GNDGND
XPROTECT
TUNER
VD+5
VA-12
VP+15
VFL+5 (NC)
SENSE+8
MUTEC
MUTE
FLIN
GNDA
FRIN
CIN
SWIN
SLIN
SRIN
VP+8
VP+8
[to POWER MODULE]
C CN3002
XPROTECT
FLIN
GNDA
FRIN
CIN
SWIN
SLIN
SRIN
CMUTE
XMUTE
TRADE ASSY
D CN3051
[to POWER]
SW
SW
GNDRSW
GNDRSW
VH-
VH-
FROUT
FROUT
GNDP
GNDP
FLOUT
FLOUT
GNDS
CN3707 AKP7070
J3704 J3702
D25PYY1012E
D CN3054
[to POWER]
SWOUT
SWOUT
VH+
VH+
COUT
COUT
VL+
VL+
SROUT
SROUT
VL-
VL-
SLOUT
SLOUT
NC
CN3706 AKP7071
J3703 J3701
D25PYY0412E
CN3601 5569-02A1
SW
GNDRSW
To Speaker
CN3705 AKP7075
VH-
VH-
FROUT
FROUT
GNDP
GNDP
FLOUT
FLOUT
GNDS
SWOUT
SWOUT
VH+
VH+
COUT
COUT
VL+
VL+
SROUT
SROUT
VL-
VL-
SLOUT
SLOUT
[from POWER MODULE]
C CN3001
Q3101 2SC4081 (QR)
Q3102 2SC4081 (QR)
ドンドコくん
Q3009 UN5112
Q3008 UN5212
Q3081 UN511L
: The power supply is shown with the marked box.
B TRADE 1 ASSY (AWU8028)
A B

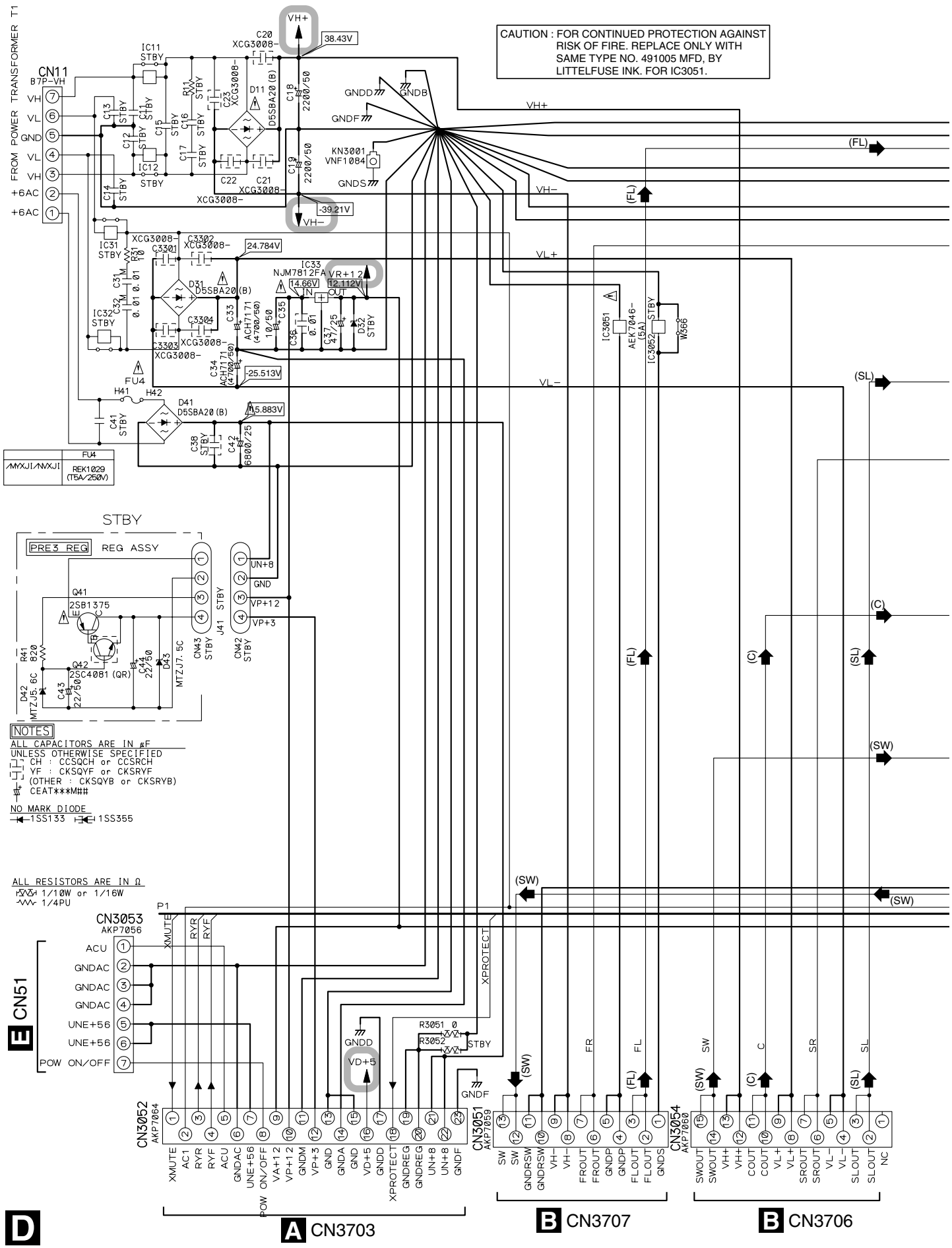
3.3 6CH AMP ASSY



C 6CH AMP ASSY (AWM7720)



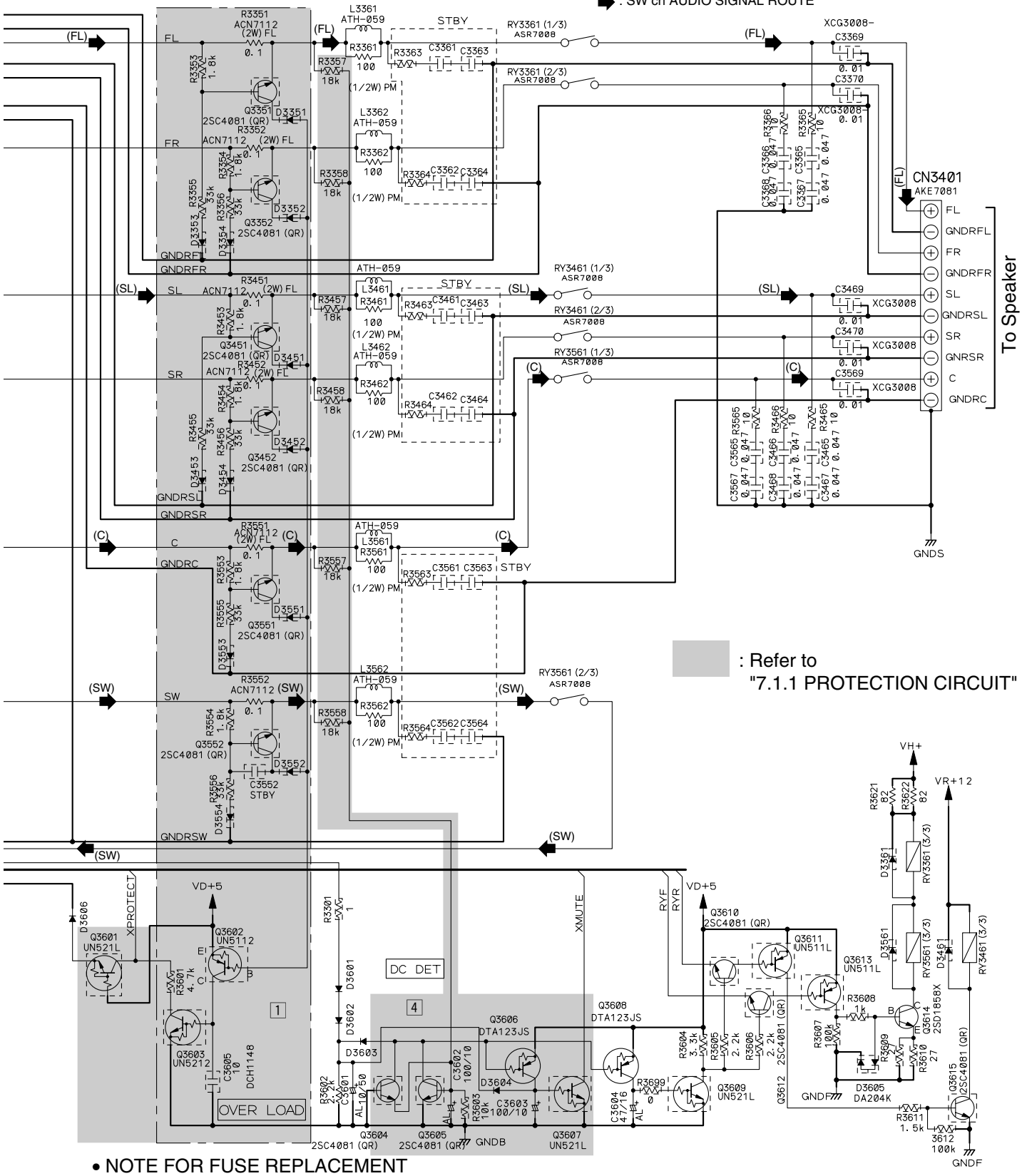
3.4 POWER ASSY



D POWER ASSY (AWU8097)

: The power supply is shown with the marked box.

(FL) : FL ch AUDIO SIGNAL ROUTE
(SL) : SL ch AUDIO SIGNAL ROUTE
(C) : C ch AUDIO SIGNAL ROUTE
(SW) : SW ch AUDIO SIGNAL ROUTE



: Refer to "7.1.1 PROTECTION CIRCUIT"

• NOTE FOR FUSE REPLACEMENT

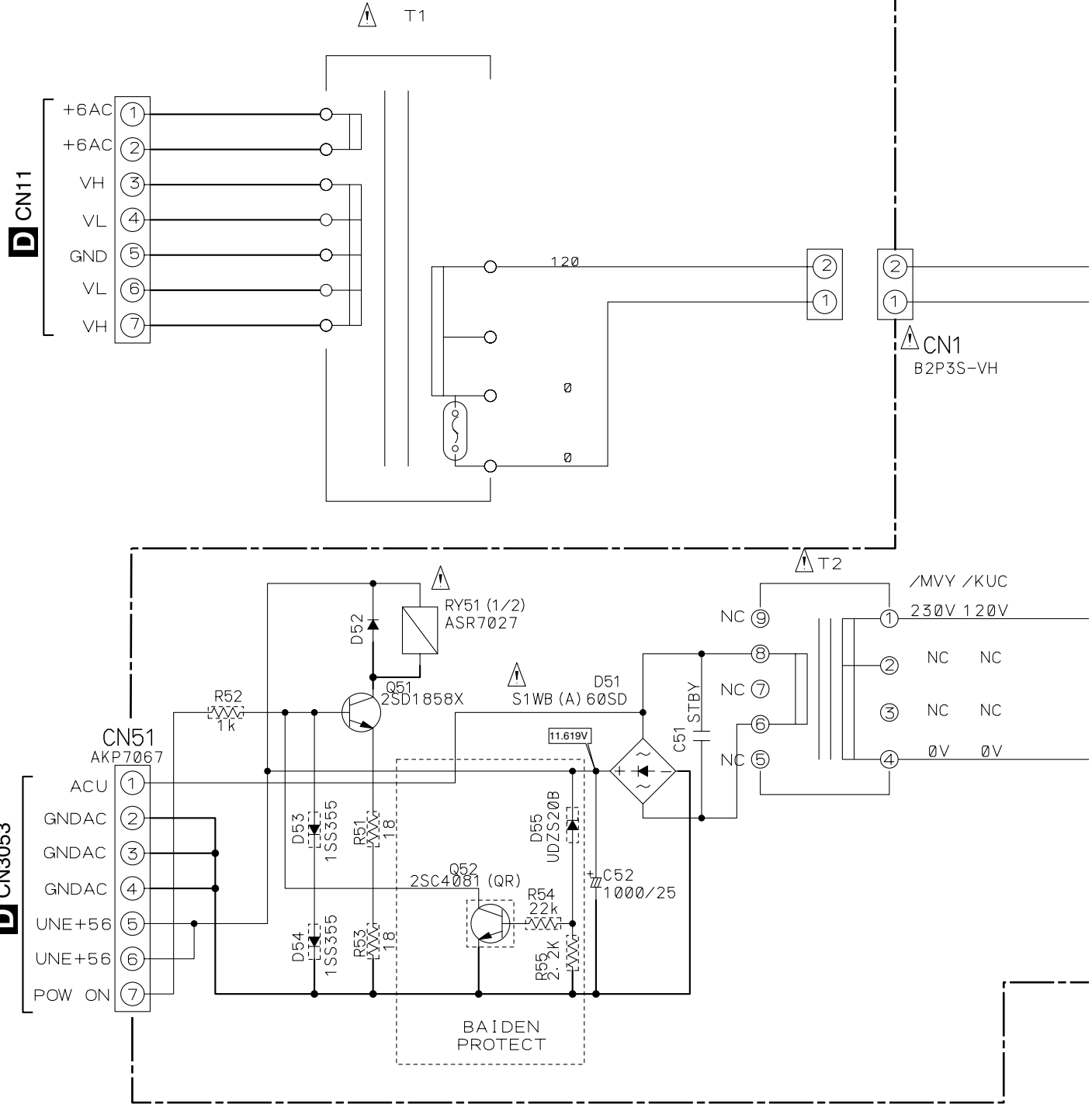
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.5 PRIMARY ASSY

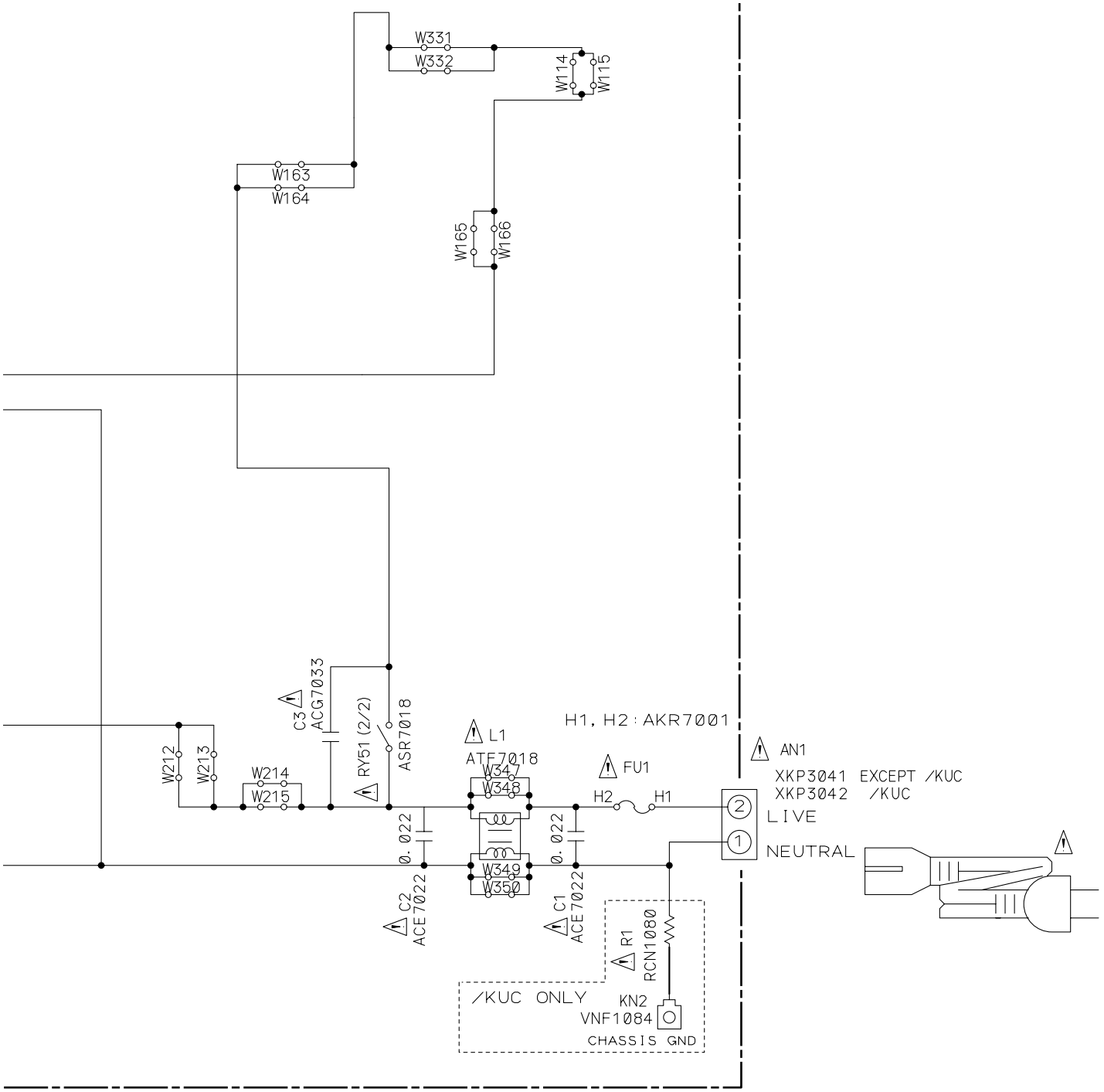
	PRI	T1	T2	FU1	FU2, FU3
/KUCXJI	AWU8003	ATS7368	ATT7079	REK1069 (6.3A/125V)	——
/MYXJI /NVXJI	AWU8001	ATS7367	ATT7078	REK1027 (T3.15AL250V)	——

• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.



E PRIMARY ASSY
(S-DV830SW: AWU8003)
(S-DV99SW: AWU8001)



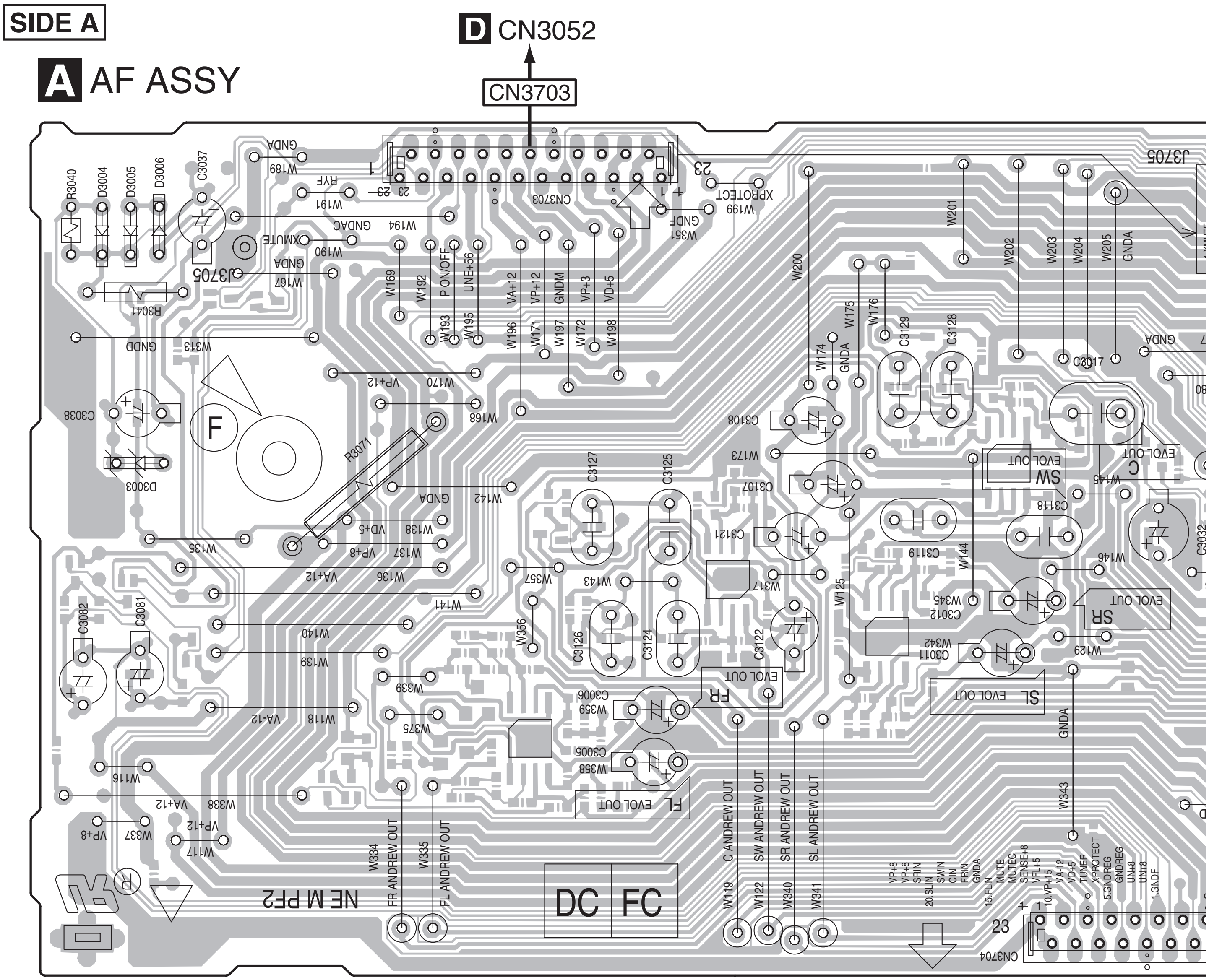
NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED

TY : CFTYA
: CKSRYB**
: RS1/16S
CEAT***M##
: 1SS133

4. PCB CONNECTION DIAGRAM

4.1 AF and TRADE 1 ASSY

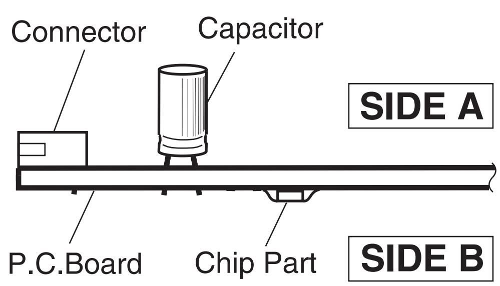


NOTE FOR PCB DIAGRAMS :

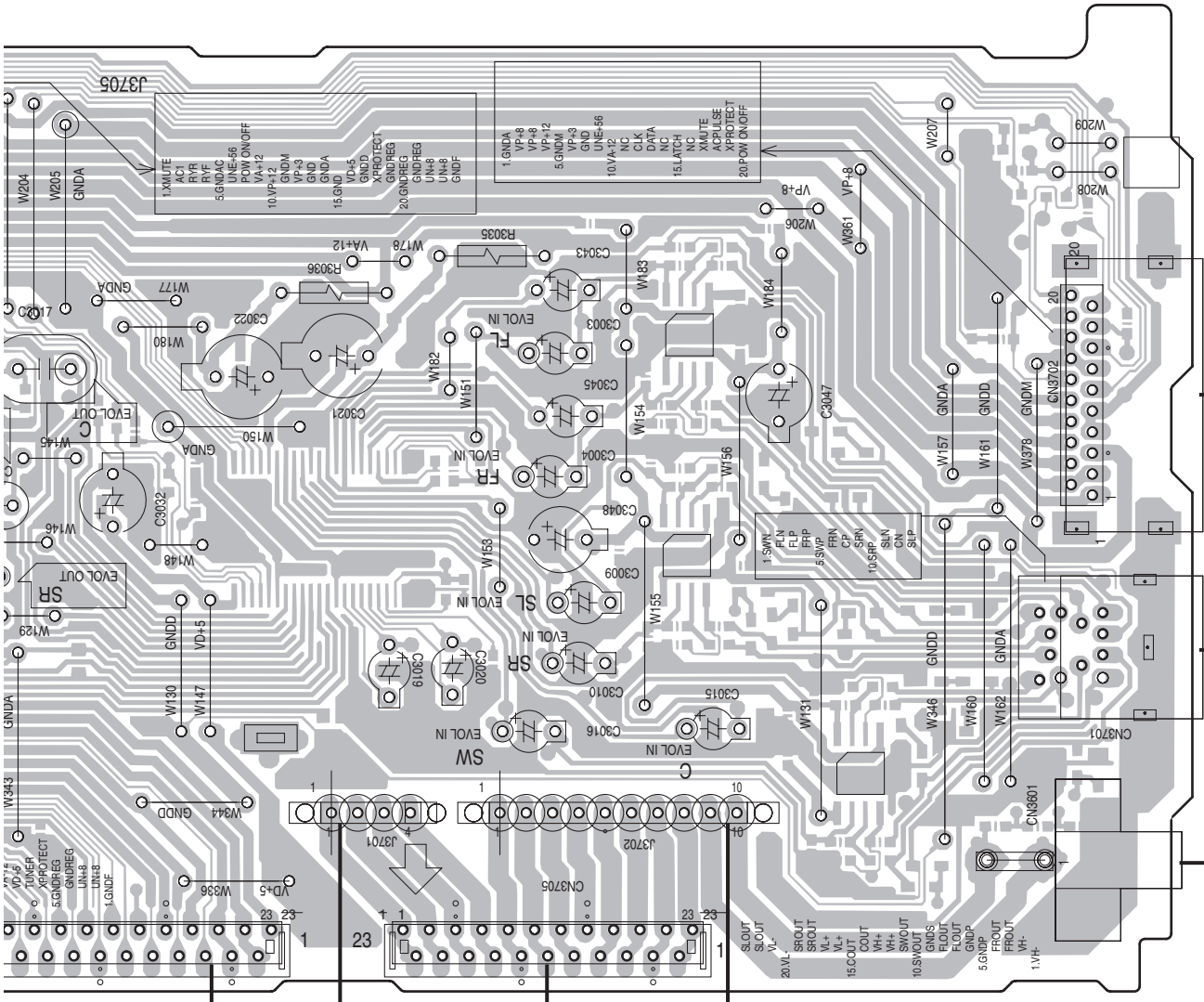
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

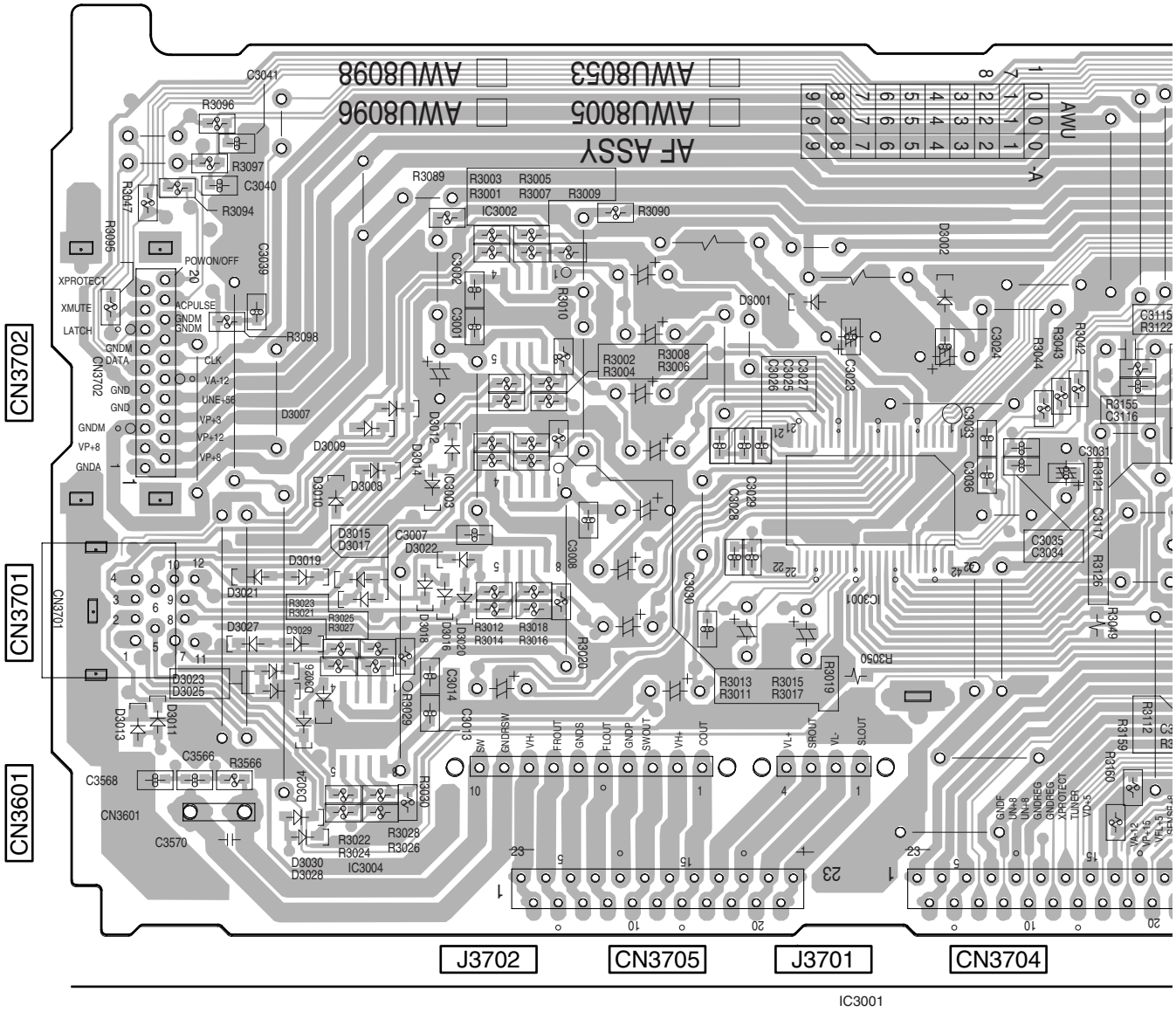


SIDE A

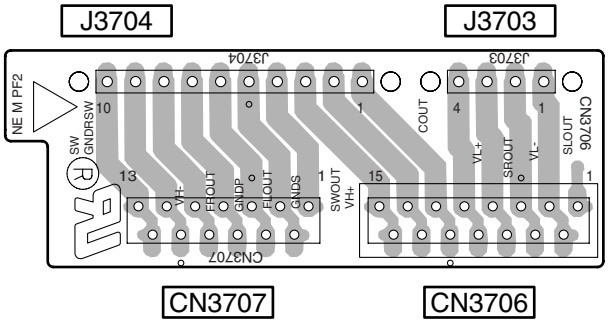

CN3702
To DVD/CD TUNER
CN3701
To DVD/CD TUNER
CN3601
To Speaker
(ANP7432-D)
CN3704
J3701
CN3705
J3702
C CN3002
C CN3001
J3703
J3704
B TRADE 1 ASSY
AWU8028
TRADE ASSY
CN3706
CN3707
D CN3054
D CN3051

SIDE B

A AF ASSY



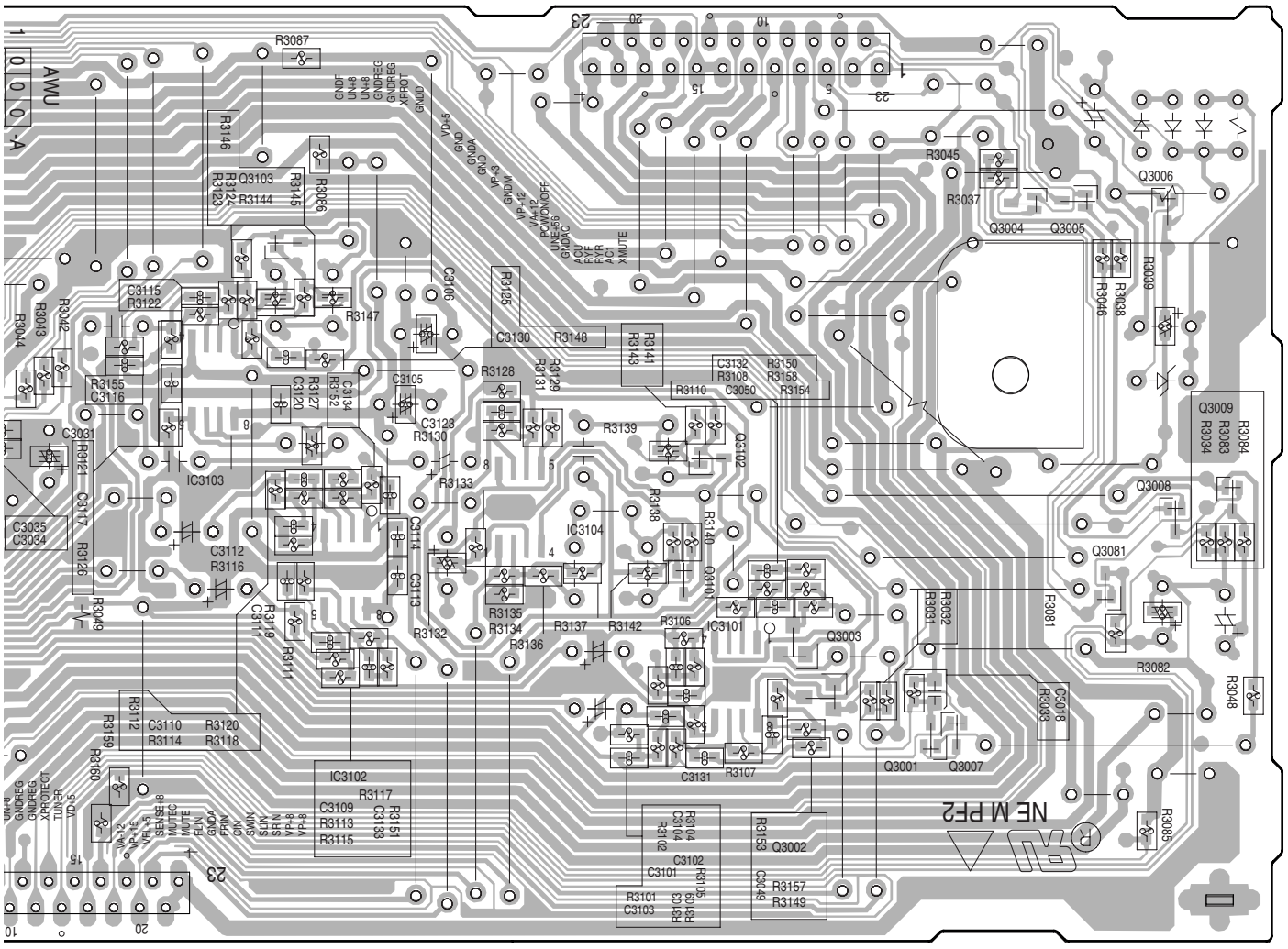
B TRADE 1 ASSY



A B

SIDE B

CN3703



(ANP7432-D)

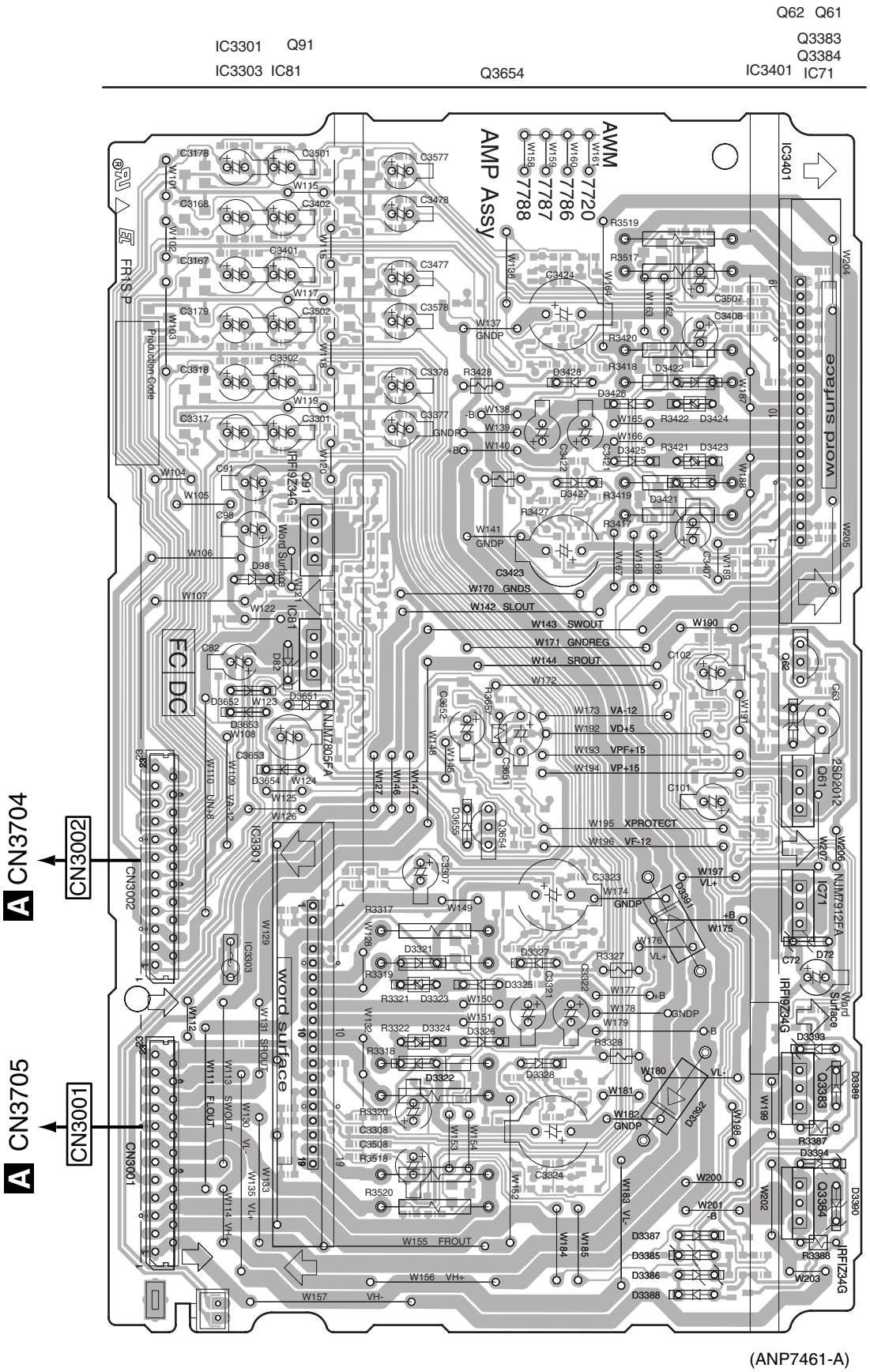
IC3103 IC3102 IC3104 Q3101 IC3101 Q3002 Q3003 Q3001 Q3007 Q3004 Q3005 Q3081 Q3008 Q3006 Q3009

4.2 6CH AMP ASSY

SIDE A

SIDE A

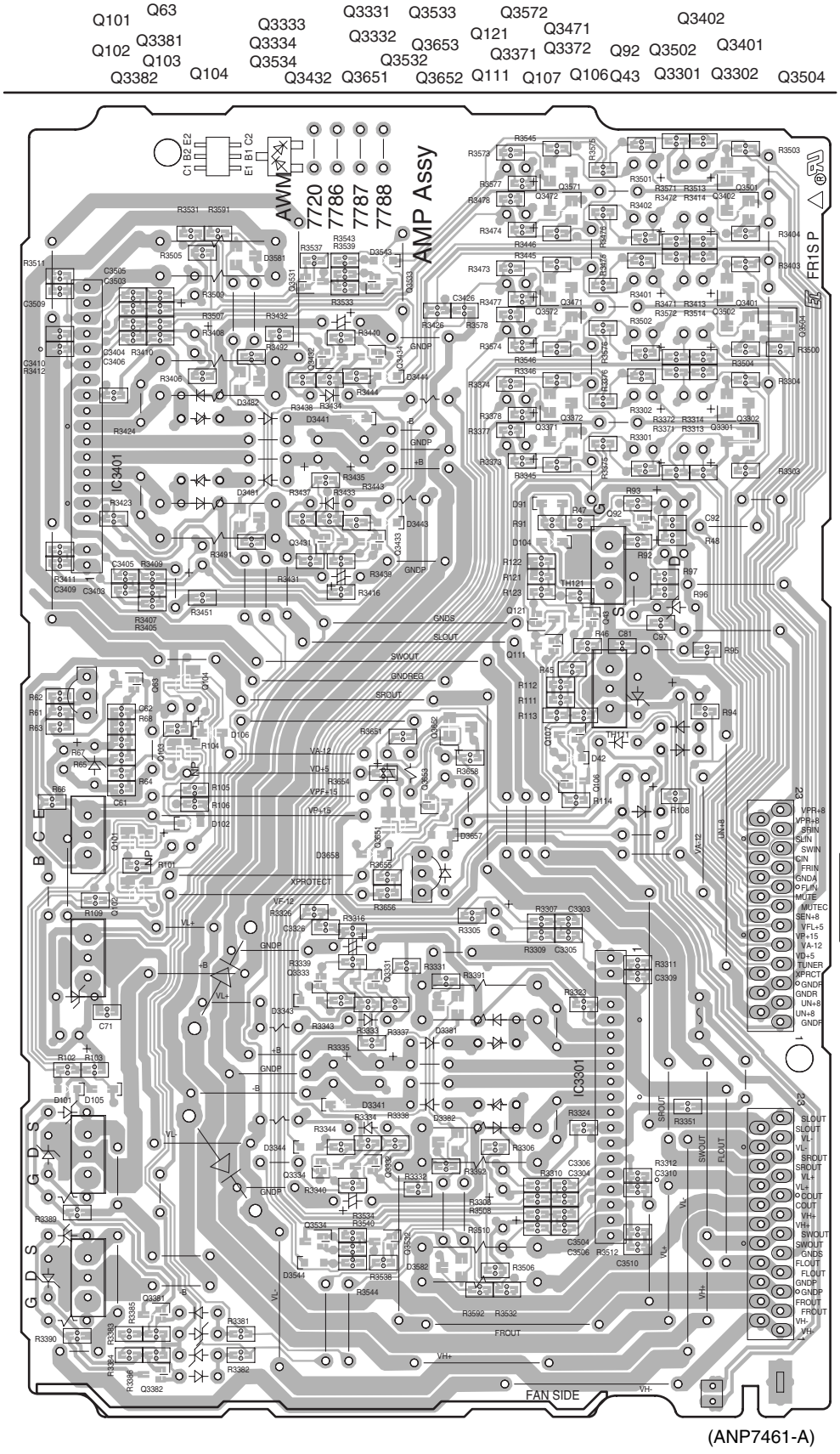
C 6CH AMP ASSY



SIDE B

C 6CH AMP ASSY

SIDE B



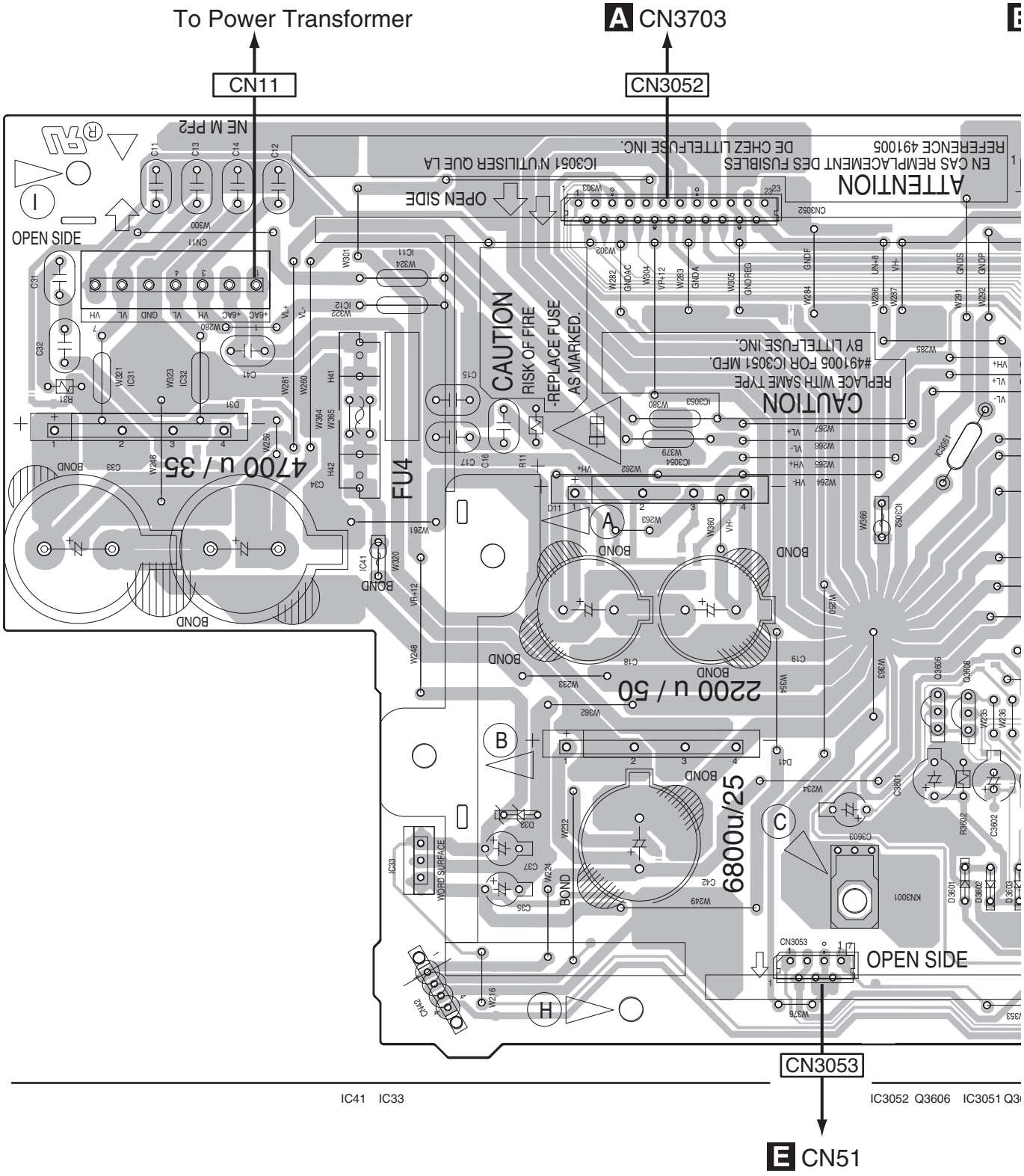
C

C

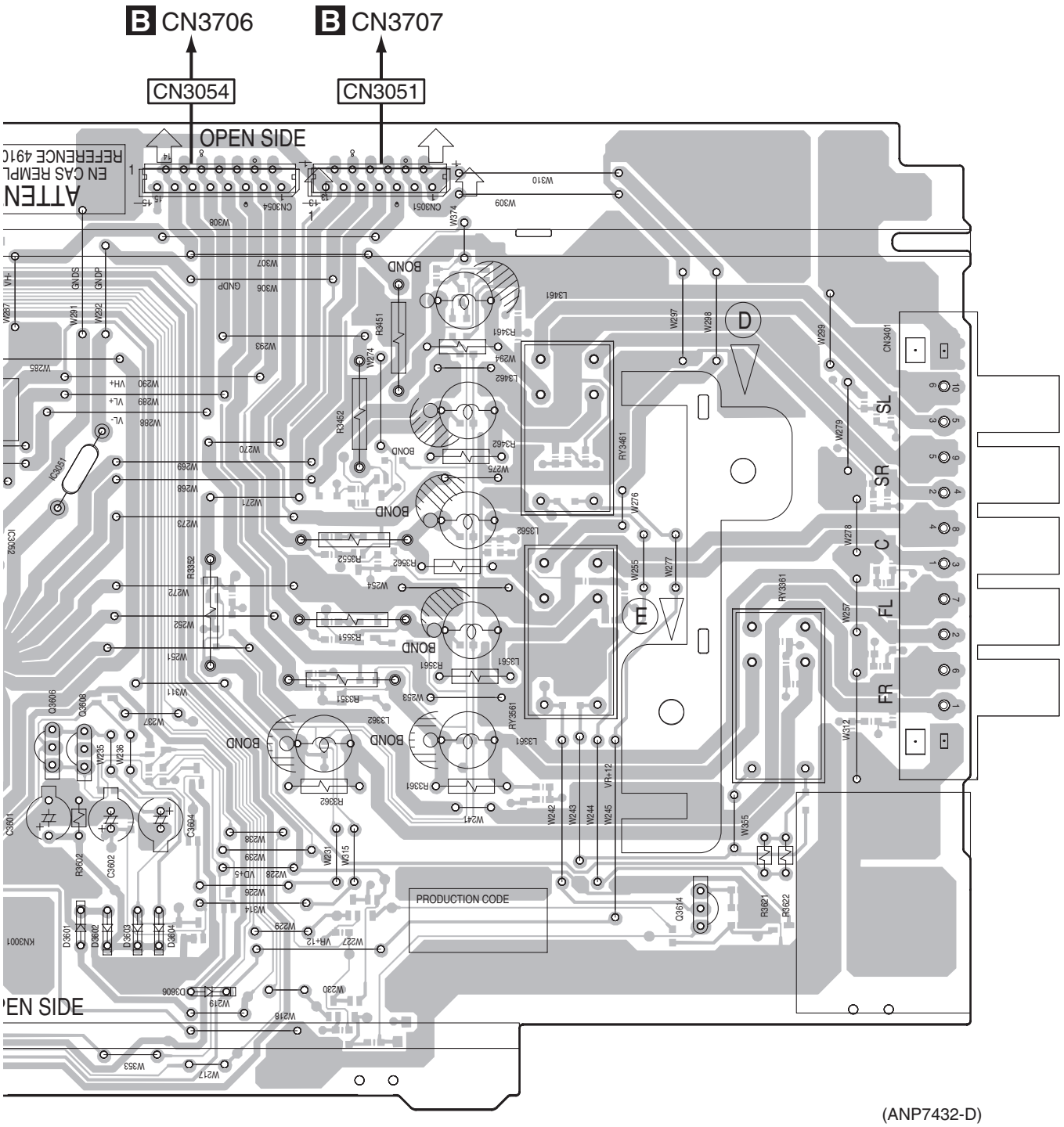
4.3 POWER ASSY

SIDE A

D POWER ASSY



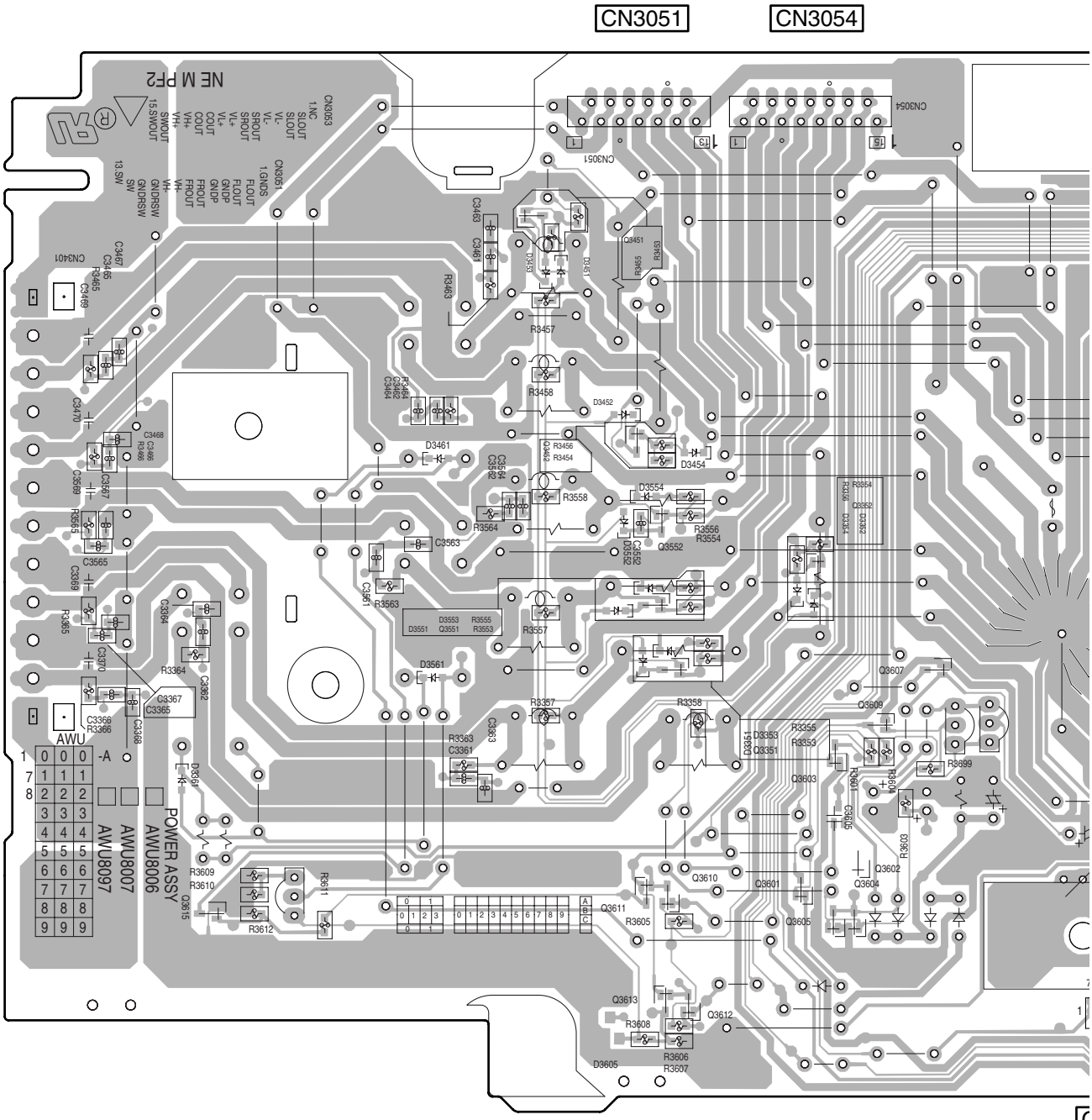
SIDE A



052 Q3606 IC3051 Q3608 Q3614

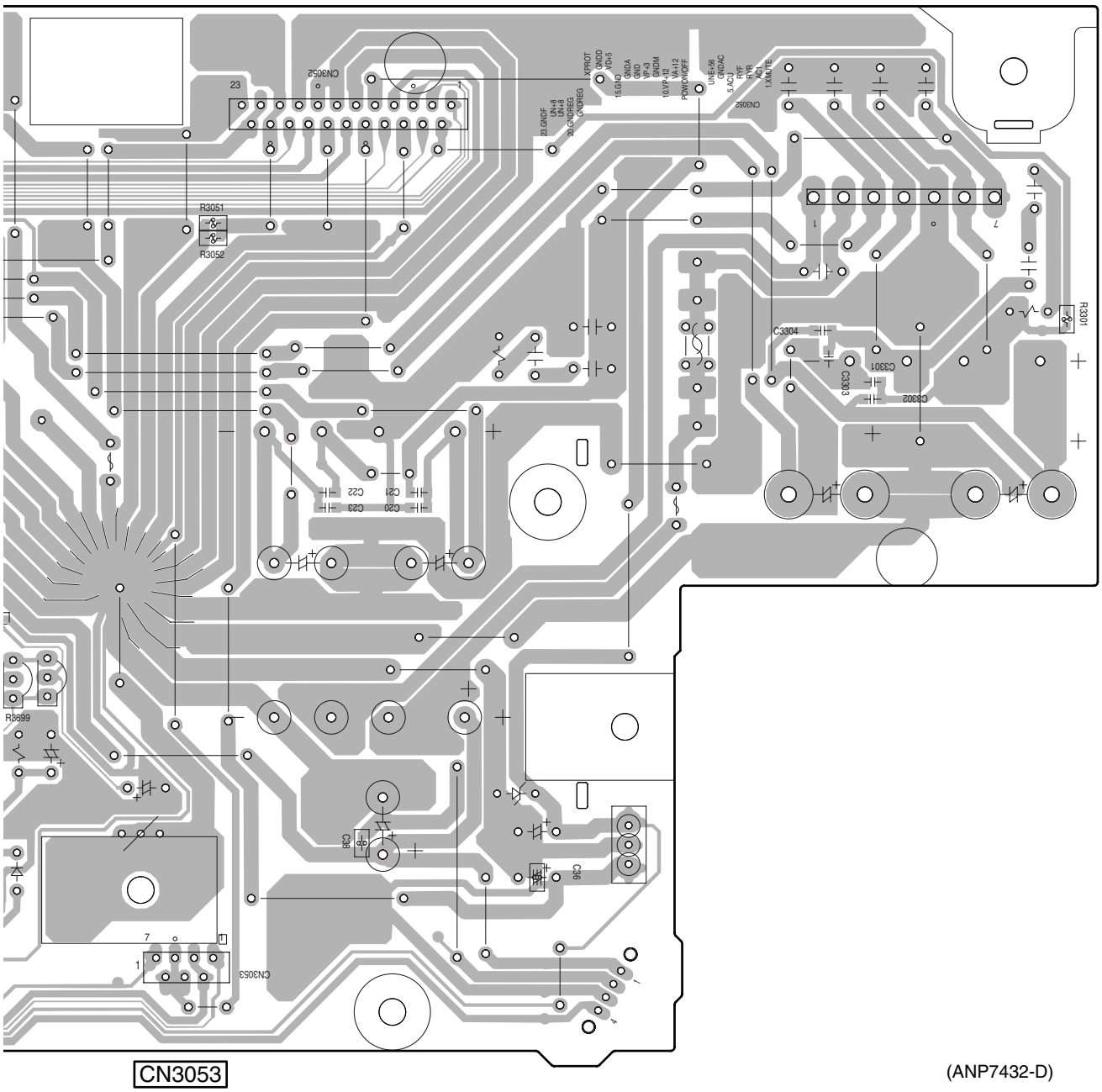
SIDE B

D POWER ASSY



SIDE B

CN3052 CN11



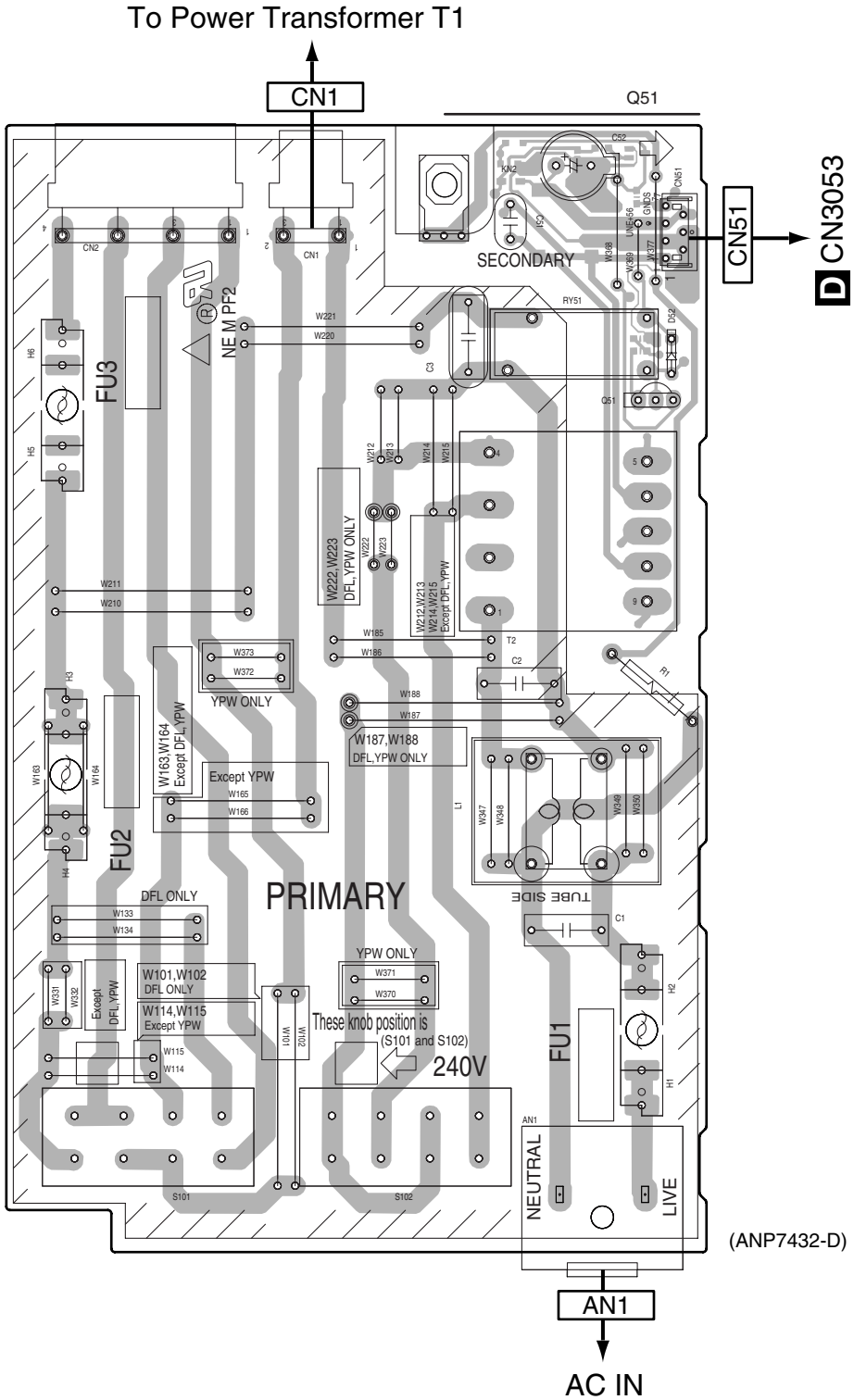
507
4 Q3609

4.4 PRIMARY ASSY

SIDE A

SIDE A

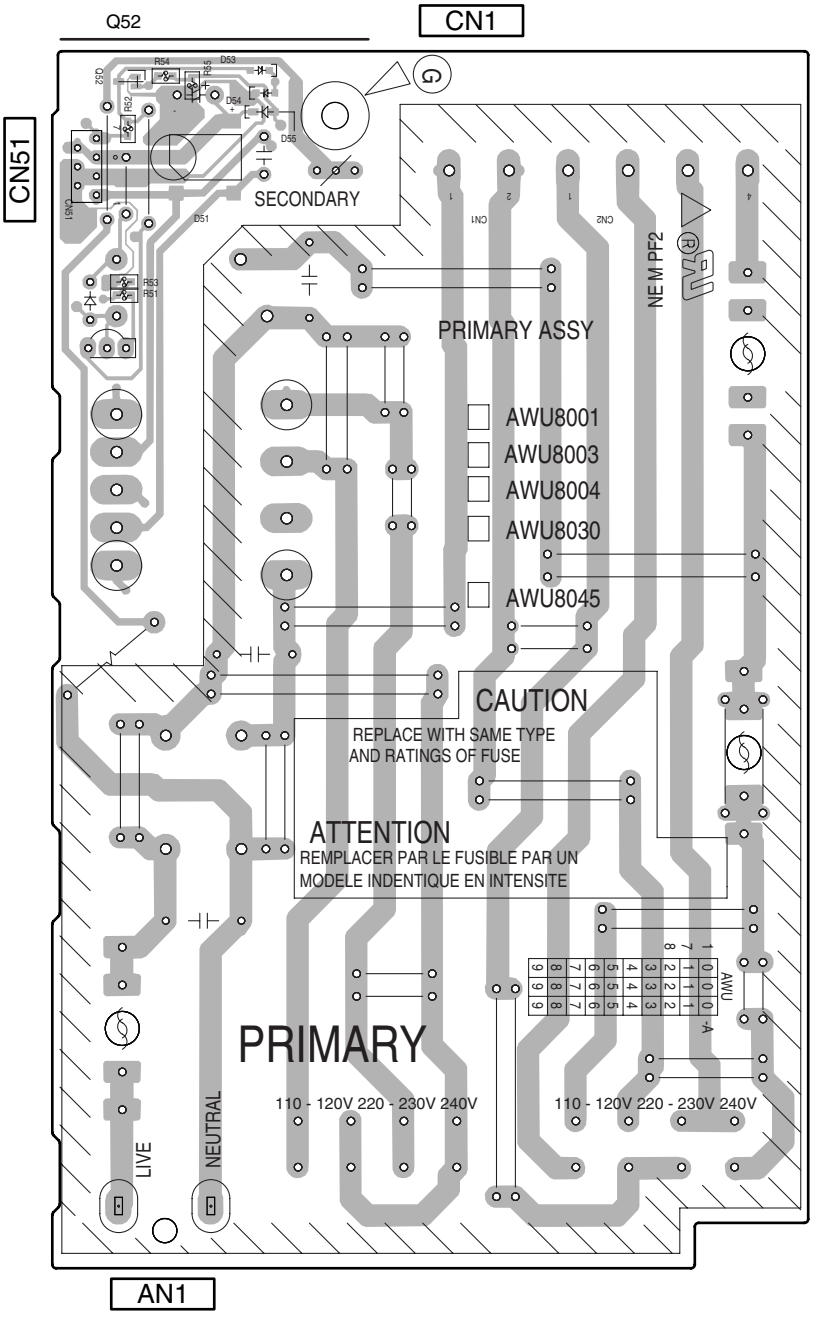
E PRIMARY ASSY



SIDE B

SIDE B

E PRIMARY ASSY



(ANP7432-D)

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→ *56 x 10[1]* →	*561*	*RD1/4PU 5 6 1 J*
47k Ω	→ *47 x 10[3]* →	*473*	*RD1/4PU 4 7 3 J*
0.5 Ω	→ *R50*		*RN2H R 5 0 K*
1 Ω	→ *1R0*		*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→ *562 x 10[1]* →	*5621*	*RN1/4PC 5 6 2 1 F*

LIST OF ASSEMBLIES

Mark No.	Description	Part No.
[S-DV830SW]		
NSP	1..DVD AMP ASSY	AWM7840
	2..PRIMARY ASSY	AWU8003
	2..TRADE 1 ASSY	AWU8028
	2..POWER ASSY	AWU8097
	2..AF ASSY	AWU8096
NSP	1..AMP MODULE 6CH	AXQ7242
	2..6CH AMP ASSY	AWM7720
[S-DV99SW]		
NSP	1..DVD AMP ASSY	AWM7838
	2..PRIMARY ASSY	AWU8001
	2..TRADE 1 ASSY	AWU8028
	2..POWER ASSY	AWU8097
	2..AF ASSY	AWU8096
NSP	1..AMP MODULE 6CH	AXQ7242
	2..6CH AMP ASSY	AWM7720

Mark No.	Description	Part No.

A AF ASSY [AWU8096]

SEMICONDUCTORS

	IC3002-IC3004, IC3102-IC3104	BA4558F-HT
	IC3001	M62446AFP
	IC3101	UPC4570G2
	Q3004, Q3005	2SC4081
	Q3009	UN5112
	Q3081	UN511L
	Q3008	UN5212
	Q3006	UN521L
	D3004-D3006	1SS133
	D3003	MTZJ2.7B
	D3001, D3002	UDZS6.8B
	D3007-D3030	UDZS8.2B

CAPACITORS

	C3034-C3036	CCSRCH101J50
	C3130-C3134	CCSRCH471J50
	C3003, C3004, C3009, C3010	CEAL100M16
	C3015, C3016, C3019, C3020, C3043	CEAL100M16
	C3045	CEAL100M16
	C3032	CEAL101M6R3
	C3021, C3022	CEAL221M10
	C3048	CEAL470M16
	C3037, C3121, C3122	CEAT100M50
	C3081, C3082	CEAT220M50
	C3038, C3047, C3107, C3108	CEAT470M25
	C3118, C3119	CFTLA224J50
	C3001, C3002, C3007, C3008	CKSRYB103K50
	C3013, C3014, C3025, C3028, C3031	CKSRYB103K50
	C3105, C3106, C3113, C3114, C3117	CKSRYB103K50
	C3120	CKSRYB103K50
	C3103, C3104, C3111, C3112, C3116	CKSRYB104K16
	C3023, C3024	CKSRYB104K25
	C3123	CKSRYB332K50
	C9001, C9002	CKSRYB392K50
	C3566, C3568	CKSRYB473K50
	C3026, C3029	CKSRYB474K10
	C3101, C3102, C3109, C3110, C3115	CKSRYB563K16
	C3027, C3030	CKSRYB822K50
	C3570 (10pF/100V)	XCG3008

RESISTORS

	R3035, R3036	RD1/2PM151J
	R3041	RD1/2PM222J
	R3040	RD1/4PU273J
	R3050	RS1/10S0R0J
	R3005-R3008, R3015-R3018	RS1/16S1001F
	R3025-R3028	RS1/16S1001F
	R3001-R3004, R3011-R3014	RS1/16S2201F
	R3021-R3024	RS1/16S2201F
	Other Resistors	RS1/16S###J

OTHERS

3701	CABLE HOLDER(4P)	51052-0400
3702	CABLE HOLDER(10P)	51052-1000
CN3601	2P CONNECTOR	5569-02A1
CN3703-CN3705	23P SOCKET	AKP7075
CN3702	20P SOCKET	AKP7129
	CN3701	AKP7131
	CN3701 12P CONNECTOR	AKP7131
	J3701 JUMPER WIRE	D25PYY0415E
	J3702 JUMPER WIRE	D25PYY1015E
	PCB BINDER	VEF1040

B TRADE 1 ASSY [AWU8028]

OTHERS

Mark	No.	Description	Part No.
	3703	CABLE HOLDER(4P)	51052-0400
	3704	CABLE HOLDER(10P)	51052-1000
	CN3707	13P SOCKET	AKP7070
	CN3706	15P SOCKET	AKP7071

C 6CH AMP ASSY [AWM7720]

SEMICONDUCTORS

⚠	IC81	NJM7805FA
⚠	IC71	NJM7912FA
⚠	IC3301, IC3401	STK402-270
	Q3382, Q43	2SA1576A
	Q62	2SB1237X
	Q111, Q3381, Q63, Q92	2SC4081
⚠	Q61	2SD2012
	Q3301, Q3302, Q3401, Q3402	2SD2114K
	Q3501, Q3502, Q3504	2SD2114K
	Q3654	2SD2144S
	Q107, Q3653	DTA124EUA
	Q3652	DTA124TK
	Q106	DTC124EUA
⚠	Q3383, Q91	IRFI9Z34G
⚠	Q3384	IRFIZ34G
	Q3651	RN1901
	Q101, Q103	UMB1N
	Q102, Q104	UMH1N
⚠	D3321-D3326	1SR139-400
	D3327, D3328	1SR139-400
⚠	D3421-D3426	1SR139-400
	D3427, D3428	1SR139-400
	D3387, D3388, D3651-D3655	1SS133
	D101, D102, D104, D3657, D42	1SS355
	D3391, D3392	30PDA20-FC6
⚠	D3381, D3382, D3481, D3482	DAN217
⚠	D3581, D3582	DAN217
	D3389, D3390	MTZJ10C
⚠	D98	MTZJ11B
⚠	D72	MTZJ15C
	D3393, D3394	MTZJ18B/C
⚠	D63	MTZJ18C
	D3385, D3386	MTZJ36A
⚠	D82	MTZJ7.5C
	D91	UDZS18B
	D105, D106, D3658	UDZS7.5B
	TH111	NCP18WF104J03RB

CAPACITORS

	C3305, C3306, C3405, C3406	CCSRCH221J50
	C3505, C3506, C62, C97	CCSRCH221J50
	C3309, C3310, C3409, C3410	CCSRCJ3R0C50
	C3509, C3510	CCSRCJ3R0C50
	C3307, C3308, C3407, C3408, C3508	CEAL100M16
	C3507	CEAL470M6R3
	C72	CEAT100M50
	C3651	CEAT101M25
	C101, C102	CEAT1R0M50
	C3323, C3324, C3423, C3424	CEAT221M50
	C3167, C3168, C3178, C3179	CEAT2R2M50
	C3301, C3302, C3317, C3318	CEAT2R2M50
	C3401, C3402, C3501, C3502	CEAT2R2M50
	C3652, C63, C82, C98	CEAT470M25
	C3653	CEAT470M35
	C3303, C3304, C3403, C3404	CKSRYB102K50
	C3503, C3504	CKSRYB102K50
	C92	CKSRYB104K16
	C71, C81	CKSRYB473K50

RESISTORS

	R3317-R3320, R3417-R3420	ACN7122
	R3517-R3520 (0.22ohm/2W)	ACN7122
⚠	R3327, R3328, R3427, R3428	RD1/4MUF470J
	R3387, R3388	RD1/4PU101J
	R3657	RD1/4PU330J
	R96, R97	RS1/16S1002F
⚠	R3323, R3324, R3351, R3423, R3424	RS1/16S1R0J
⚠	R3451	RS1/16S1R0J
	R67, R68	RS1/16S2201F
	R94, R95	RS1/16S2701F
⚠	R62	RS1/16S330J
	R65	RS1/16S4700F
	R47, R48	RS1/16S4701F
	Other Resistors	RS1/16S###J

OTHERS

	CN3001, CN3002	23P PLUG AKP7064
	CN3651	PLUG(2P) KM200SA2

D POWER ASSY [AWU8097]

SEMICONDUCTORS

⚠	IC3051	PROTECTOR(5A) AEK7046
⚠	IC33	NJM7812FA
	Q3351, Q3352, Q3451, Q3452	2SC4081
	Q3551, Q3552, Q3604, Q3605, Q3610	2SC4081
	Q3612, Q3615	2SC4081
	Q3614	2SD1858X
	Q3606, Q3608	DTA123JS
	Q3602	UN5112
	Q3611, Q3613	UN511L
	Q3603	UN5212
	Q3601, Q3607, Q3609	UN521L
	D3601-D3604, D3606	1SS133
	D3351-D3354, D3361, D3451-D3454	1SS355
	D3461, D3551-D3554, D3561	1SS355
⚠	D11, D31, D41	D5SBA20(B)
	D3605	DA204K

COILS AND FILTERS

	L3361, L3362, L3461, L3462	ATH-059
	L3561, L3562	COIL ATH-059

CAPACITORS

	C33, C34 (4700uF/35V)	ACH7171
	C3601	CEAL100M50
	C3602	CEAL101M10
	C3604	CEAL470M16
	C35	CEAT100M50
	C3603	CEAT101M10
	C18, C19	CEAT222M50
	C37	CEAT470M25
	C42	CEAT682M25
	C36	CKSRYB103K50
	C3365-C3368, C3465-C3468, C3565	CKSRYB473K50

Mark	No.	Description	Part No.
	C3567		CKSRYB473K50
	C31, C32		CQMBA103J50
	C3605	(10uF/10V)	DCH1148
	C20–C23, C3301-C3304		XCG3008
	C3369, C3370, C3469, C3470, C3569	(10pF/100V)	XCG3008
	RESISTORS		
	R3351, R3352, R3451, R3452		ACN7112
	R3551, R3552	(0.1ohm,2W)	ACN7112
	R3361, R3362, R3461, R3462		RD1/2PM101J
	R3561, R3562		RD1/2PM101J
	R31		RD1/4PU100J
	R3602		RD1/4PU222J
	R3621, R3622		RD1/4PU820J
	Other Resistors		RS1/16S###J
	OTHERS		
	3401	SPEAKER TERMINAL10-P	AKE7081
	CN3053	7P PLUG	AKP7056
	CN3051	13P PLUG	AKP7059
	CN3054	15P PLUG	AKP7060
	CN3052	23P PLUG	AKP7064
	H41, H42	FUSE CLIP	AKR7001
	RY3361, RY3461, RY3561	SP RELAY	ASR7008
	CN11	CONNECTOR	B7P-VH
	KN3001	WRAPPING TERMINAL	VNF1084

E PRIMARY ASSY [AWU8003]

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	Q52		2SC4081
	Q51		2SD1858X
	D52		1SS133
	D53, D54		1SS355
⚠	D51		S1WB(A)60SD
	D55		UDZS20B
	COILS AND FILTERS		
⚠	L1	LINE FILTER	ATF7018
	TRANSFORMERS		
⚠	T2	POWER TRANSFORMER	ATT7079
	CAPACITORS		
⚠	C1, C2	(0.022F/AC275V)	ACE7022
⚠	C3	(1000pF/AC250V)	ACG7033
	C52		CEAT102M25
	RESISTORS		
⚠	R1	(2,2Mohm/ 1/2W)	RCN1080
	Other Resistors		RS1/16S###J
	OTHERS		
	CN51	7P SOCKET	AKP7067
	H1, H2	FUSE CLIP	AKR7001
⚠	RY51	RELAY	ASR7027
⚠	CN1	CONNECTOR	B2P3S-VH
	KN2	WRAPPING TERMINAL	VNF1084
⚠	AN1	AC INLET 1P	XKP3042

E PRIMARY ASSY [AWU8001]

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	Q52		2SC4081
	Q51		2SD1858X
	D52		1SS133
	D53, D54		1SS355
⚠	D51		S1WB(A)60SD
	D55		UDZS20B
	COILS AND FILTERS		
⚠	L1	LINE FILTER	ATF7018
	TRANSFORMERS		
⚠	T2	POWER TRANSFORMER	ATT7078
	CAPACITORS		
⚠	C1, C2	(0.022F/AC275V)	ACE7022
⚠	C3	(1000pF/AC250V)	ACG7033
	C52		CEAT102M25
	RESISTORS		
	All Resistors		RS1/16S###J
	OTHERS		
	CN51	7P SOCKET	AKP7067
	H1, H2	FUSE CLIP	AKR7001
⚠	RY51	RELAY	ASR7027
⚠	CN1	CONNECTOR	B2P3S-VH
⚠	AN1	AC INLET 1P	XKP3041

6. ADJUSTMENT

There is no information to be shown in this chapter.

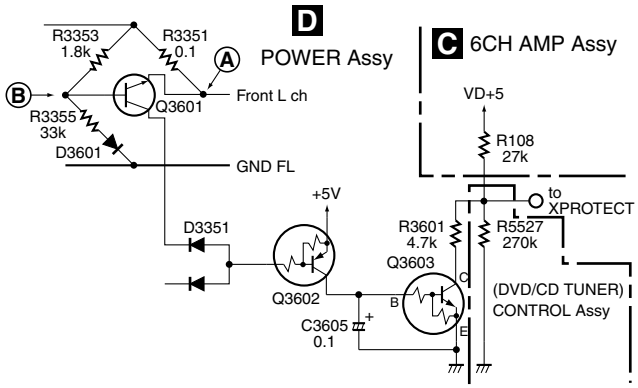
7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 PROTECTION CIRCUIT

Note: Refer to the Schematic Diagram about the actual circuit.
(The □ number corresponds to the ▭ marked circuits.)

1 Protection circuit when the Speaker terminal becomes overloaded



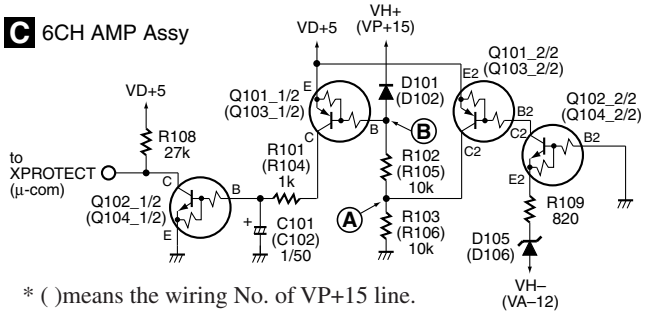
In Normal mode, the speaker (6 ohms) is connected between the FL and GND FL points. Because the voltage at Point Ⓐ is higher than that at Point Ⓑ, Q3601 does not operate.

If the resistance between the FL and GND FL points becomes 1.83 ohms or less, Q3601 begins to operate, Q3602 is turned on, Q3603 (E, C, and B)is turned on, and the level of XPROTECT becomes MID.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

2 -1 Short-circuit-detection circuit for the amplifier power circuit (VH+[VP+15], VD+5, -12 V [VA-12])

Circuit for shutting the power off when VP+15, VD+5, or VA-12 is short-circuited to ground (GND)



* ( )means the wiring No. of VP+15 line.

- In Normal mode, as Q101 (Q103) (E2, B2, C2) and Q102 (Q104) (E2, B2, C2) are on, the voltage at Point Ⓐ is about 5 V. The voltage at Point Ⓑ is therefore about the same. As Q101 (Q103) (E, C, B) is off, Q102 (Q104) (E, C, B) is also off.

(1) When VH+(VP+15) is short-circuited to GND

As the voltage at Point Ⓑ becomes almost ground potential, and Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

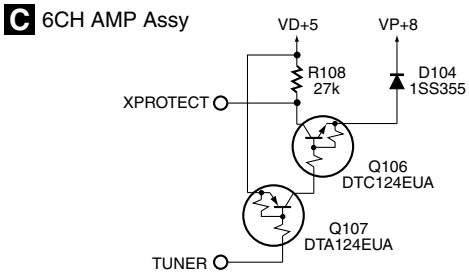
(2) When VH-(VA-12) is short-circuited

As the electric potential of VE at Q102 (Q104) (E2, C2, B2) becomes the same as that at VB, Q102 (Q104) (E2, C2, B2) is turned off. Following this, Q101 (Q103) (E2, B2, C2) is turned off, which changes the voltage at Points Ⓐ and Ⓑ to a value other than 5 V. Therefore, Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

(3) When VD+5 is short-circuited

The level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

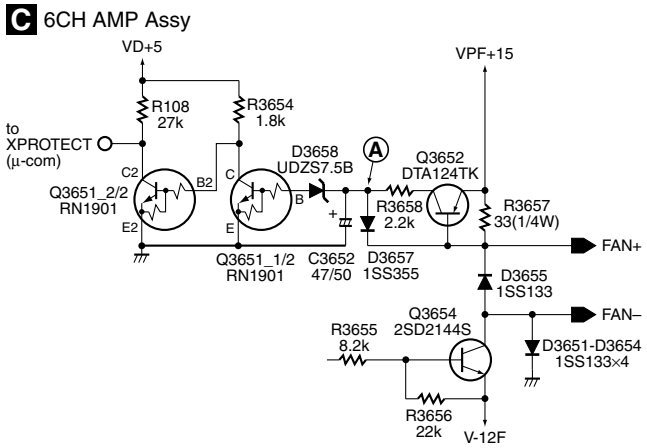
2 -2 Short-circuit-detection circuit for the DVD power Line (VP+8)



As the TUNER line is fixed to GND level, Q107 is always on. If the level at VP+8 falls to GND level because of short-circuit, etc., Q106 is turned on, and the level of the XPROTECT line becomes low.

← The microcomputer detects the XPROTECT level and shuts the power to the unit off.

3 FAN detection circuit

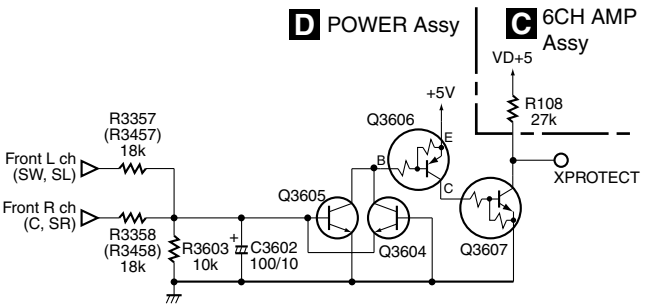


If no fan is connected between FAN+ and FAN-, or when the fan cannot rotate because of a foreign object caught in the blades, current will not flow to R3657, and Q3652 and Q3651-1/2 (E, C, B) are turned off. Then Q3651-2/2 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

When FAN+ and FAN- are short-circuited, the electric potential at Point Ⓐ becomes higher than GND level by the addition of the values at D3656 and D3657. As this value is lower than that at D3658, Q3651 (E, C, B) is turned off, Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

4 DC detection circuit of SP terminal



• In Normal mode, both Q3605 and Q3604 are off.

(1) When positive (+) DC voltage is generated at the SP terminal

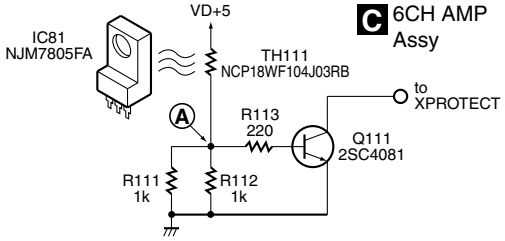
When positive (+) DC voltage is generated at the L or R channel, and VB of Q3605 becomes higher than that at the operation point, Q3606 (E, C, B) is turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When negative (-) DC voltage was generated at the SP terminal

Q3604 is turned on, and XPROTECT is activated.

5 IC81 abnormal temperature detection circuit



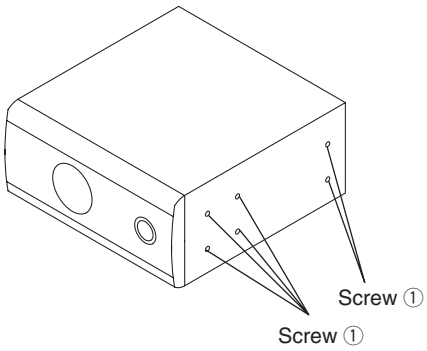
The voltage at Point Ⓐ becomes the divided voltage of TH111 and R111//R112 (combined resistance of parallel-connected resistors R111 and R112.) In Normal mode, the resistance at TH111 is much higher than R111//R112, and Q111 is off. (Note that the resistance at TH111 becomes lower as the temperature increases.) If the solder temperature at IC81 increases abnormally, the temperature at TH111 (thermistor) mounted closest to the land of IC81 increases accordingly, and the resistance at TH111 decreases.

When the temperature at TH111 reaches 90-110_C (varying according to conditions,) the voltage at Point (A) becomes high enough to turn Q111 on, and the level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

7.1.2 DISASSEMBLY

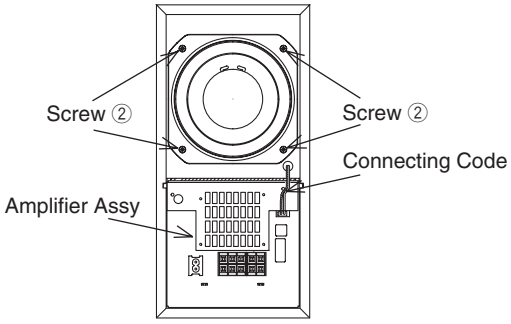
1. Removing the Amplifier Assy

1) The Amplifier Assy is attached to the cabinet by six external screws ①. To detach it, pull down the subwoofer toward the left side.
2) Then unfasten those screws ① .
3) Then stand up the speaker again. To detach the Amplifier Assy, first remove the connecting code. Then pull straight the Amplifier Assy toward back and remove it.



2. Removing the Subwoofer

1) The speaker element is attached to the back board by four external screws ②. To detach it, unfasten those screws.
2) When attaching it,face its terminal upward.



3. Removing the Cosmetic Baffle

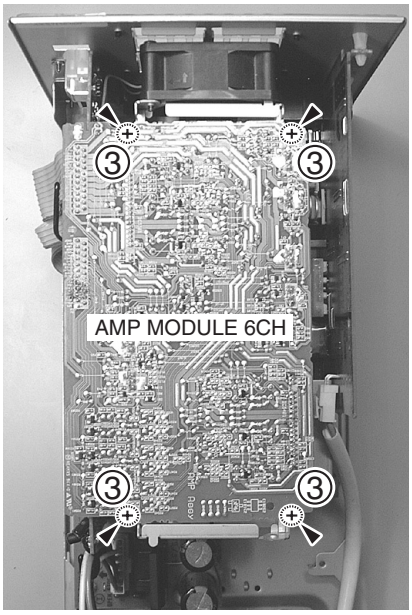
1) The cosmetic baffie is attached to the baffle by press-fitting. To detach it,pry it open by inserting a flat blade screwdriver into lower side.

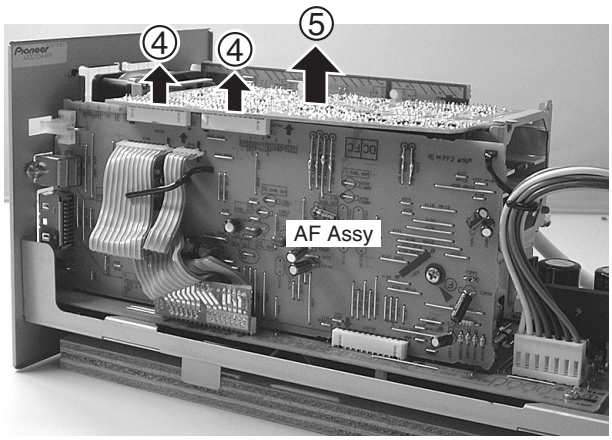
4. Removing the Cosmetic Duct

1) The cosmetic baffle, those screws are removed when removing the cosmetic duct attached in cosmetic baffle with four screws.

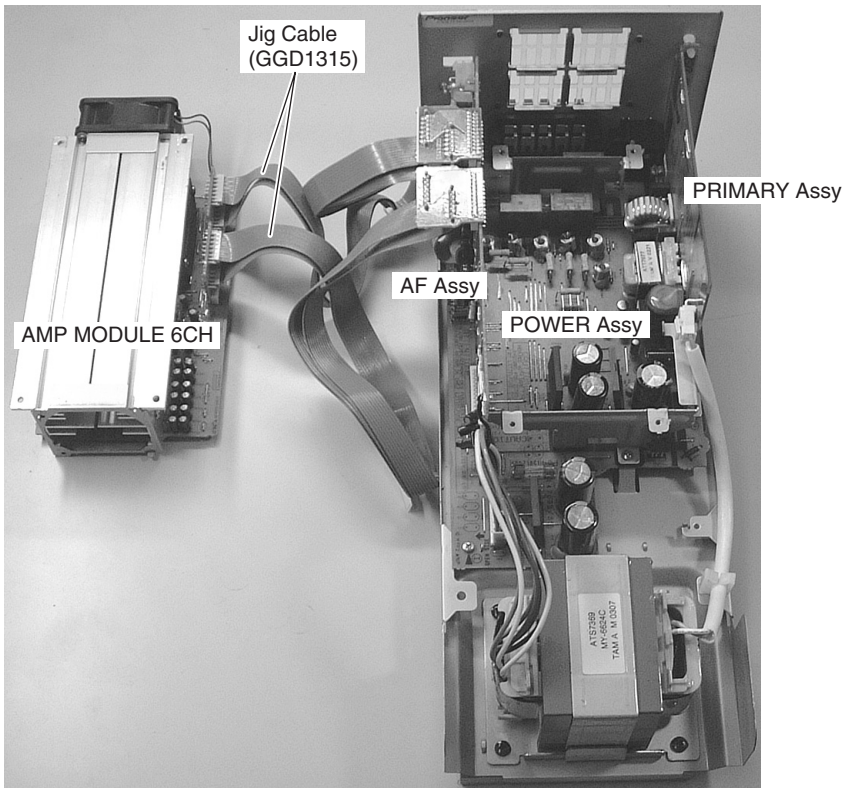
5. Diagnosis

1) Remove the four screws ③.
2) Disconnect the two connectors ④.
3) Remove the AMP MODULE ⑤.





4) Connect the two jig cables as figure below.



Diagnosis

7.2 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ M62446AFP (AF ASSY : IC3001)

● EXPAND port in E-vol IC

No.	Mark	Pin Name	Pin Function	Active
3	Q2	CMUTE	Control C mute	H
2	Q3	SPRYRC	Control relay for rear and center speaker	H
1	Q4	SPRYS	Control relay for front speaker	H

7.3 CLEANING

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008